TECHNICAL DEPT.

FLIGHT

MAGAZINE

MARCH 1958
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DETROIT

CESSNA MODEL 175

(See page 20)

GENERAL ELECTRIC and wilcox

team up

to provide you the newest, lightest weight, lowest priced compass system for your business aircraft

General Electric's compass system weighs only 8 pounds! Substantially less than comparable electrically driven systems.

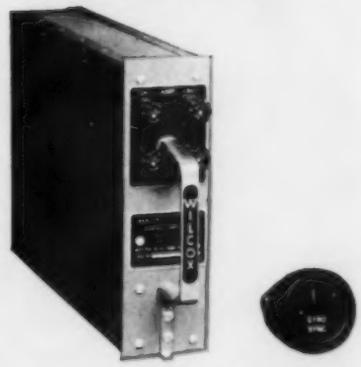
General Electric's compass system costs much less than comparable systems!

GE's compass system provides you these outstanding performance features: highly accurate heading information, maximum error in the slaved mode never exceeds 2 degrees, and operational stability is assured up to 40,000 feet. It is quickly and easily installed on any aircraft. It is electrically driven and you need never worry about dust, moisture or icing problems.

GE's compass system provides you with these highly desirable operational features: it is the only compass system, in its price range, that can be used in conjunction with modern navigational systems. It provides the necessary synchro output for modern navigational equipment like TACAN, VOR, and RMI. For such purposes, the system is capable of driving 1 to 3 repeaters. Correction of the system's gyroscope is continuous and automatic. The gyroscope is slaved to the proper magnetic heading at a rate of approximately 4 degrees per minute; also a reset, or caging knob, is provided on the gyro indicator so you can mechanically set the system to the proper heading.

It's made by General Electric. It's distributed by Wilcox. It's ready for your inspection and purchase at your nearby Wilcox dealer. So why wait? See it soon and place your order. Delivery assured in 30 days. If you desire more technical information prior to your visit with a Wilcox dealer, write, wire or phone . . .

Units of the General Electric Compass System



1 Compass Amplifier **2** Synchronization Indicator

3 Gyro Indicator **4** Compass Transmitter

*Alternate Location

wilcox
ELECTRIC COMPANY, INC.
Fourteenth & Chestnut Sts.
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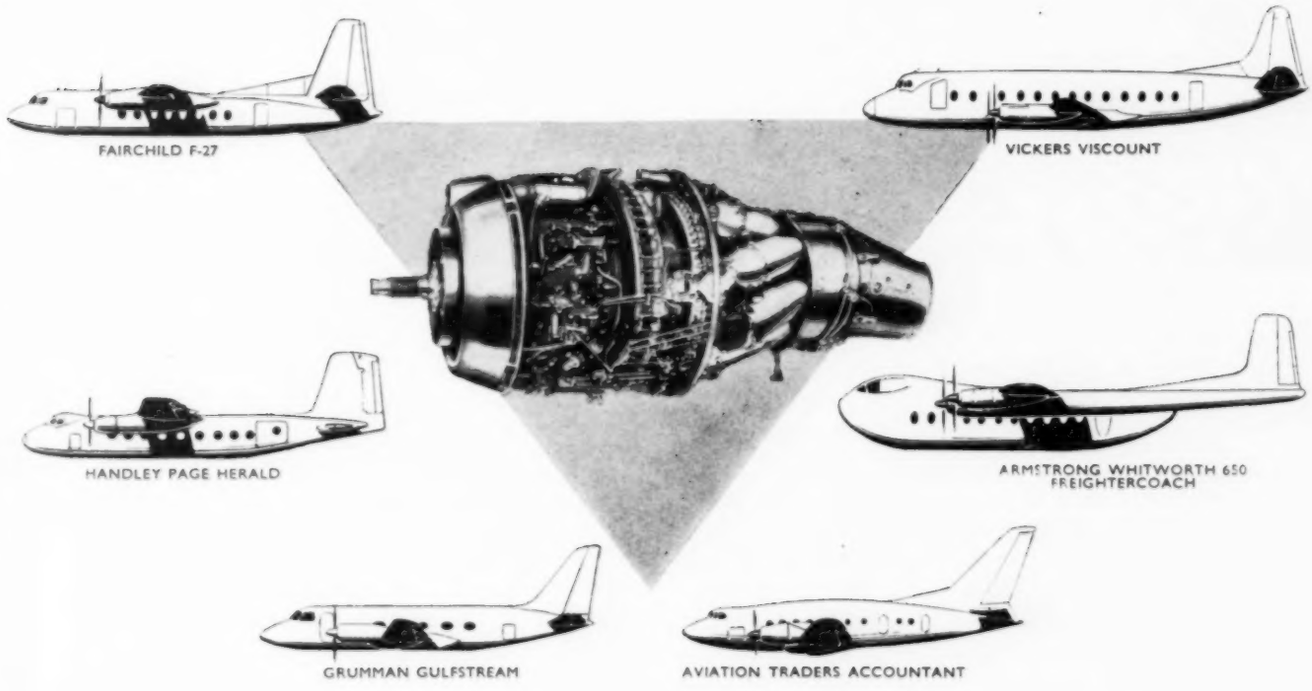
ROLLS-ROYCE
DART
PROP-JETS

for airline, local service and executive operation.



The Rolls-Royce Dart is the most proven prop-jet in the world and has flown over 3,000,000 hours in scheduled airline service.

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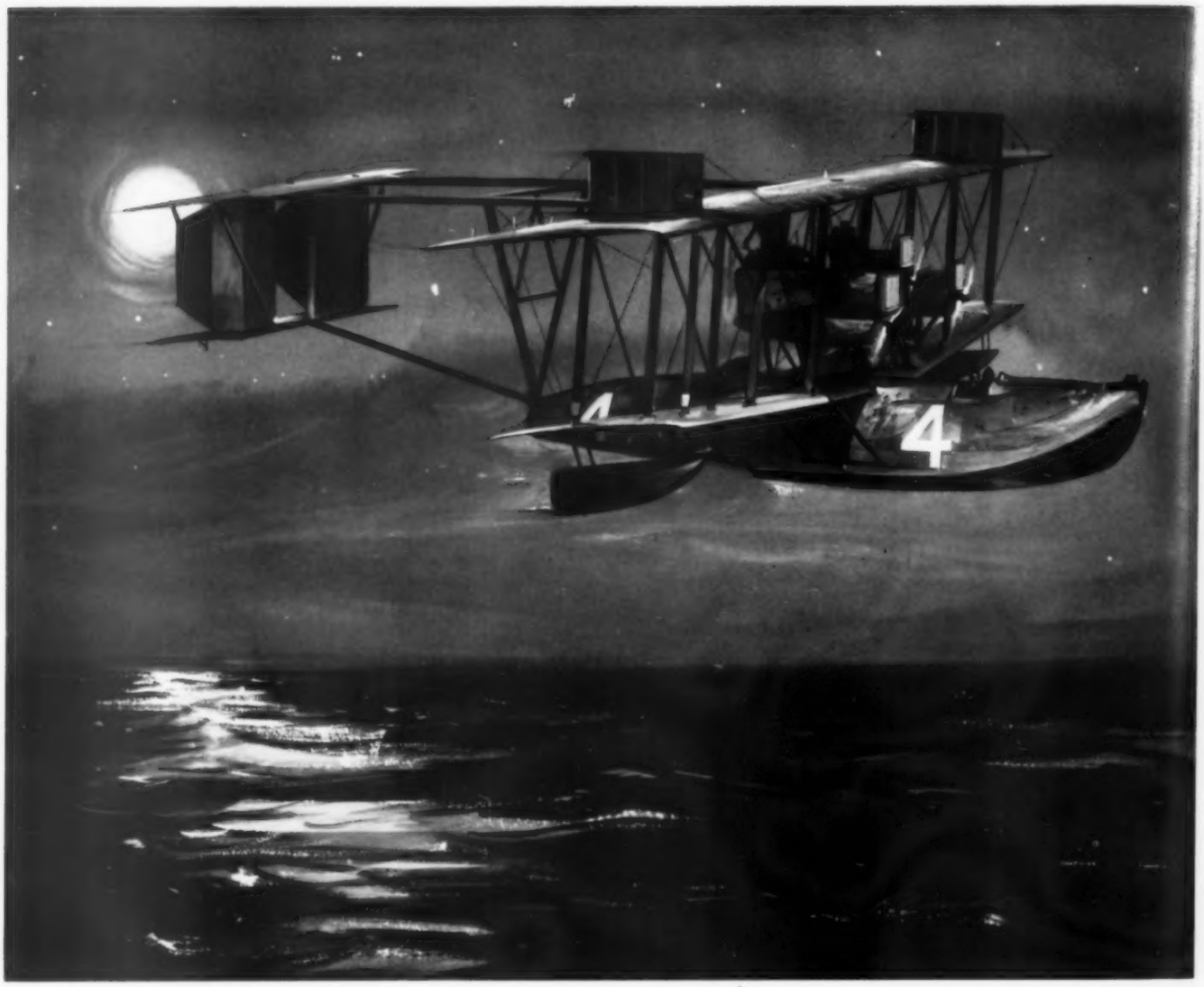

NC-4...*"Lame Duck"* that flew the Atlantic

In 1919, U.S. Navy flyers made plans to attempt their first transatlantic flight, in four NC's. The venture was dogged by hard luck. One of the planes burned in a hangar fire. On May 8, 1919, the three remaining flying boats took off for Europe, but the NC-4 was forced down near Chatham, Mass., and was dubbed the "Lame Duck" by newspapers.

However, after an engine replacement, the NC-4 joined the other planes in Newfoundland, and they took off from that point on May 16. The NC-1 and the NC-3 were forced down in the Atlantic, with no loss of life. The NC-4 kept going and 15 hours and 18 minutes after taking off it landed in the Harbor of Horta, Azores. From there it continued on to Ponta Delgada and Lisbon, Portugal. Total flying time of the NC-4 in this epic transatlantic airplane crossing was 26 hours, 45 minutes.

Thus the "Lame Duck" proved to be quite a bird.

● A pioneer in research and development of aviation fuels, Phillips Petroleum Company is, today, a foremost supplier of high octane gasoline for commercial, private and military aircraft. In step with the future, Phillips is a leading producer of *super-performance* jet fuels for the latest designs in turbo-props and jets. And Phillips research continues to lead the way for development of fuels for the aircraft of tomorrow.

AVIATION DIVISION
PHILLIPS PETROLEUM COMPANY

Phillips 66

BARTLESVILLE, OKLAHOMA

AIR Report
Significant Trends and News

TWO AIRLINES HAVE ORDERED VERTOL MODEL 44 TRANSPORT HELICOPTERS, New York Airways buying five and Sabena Belgian World Airlines leasing two. In addition, the Swedish Navy has bought four. Vertol will equip those for N. Y. Airways and Sweden with new emergency flotation gear which combines fuselage sealing.

A NEW AND MODIFIED VERSION OF THE SEABEE AMPHIBIAN will be produced by Northern Aircraft, Alexandria, Minnesota, which also produces the Bellanca Cruisemaster. Roy Strong, president, said Northern Aircraft has become the source for Seabee parts.

NEW 4-PLACE MOONEY WITH 180-HP. LYCOMING cruises at 6,000 ft. at an indicated air speed of 163 mph. using 2,250 rpm. and 23.5 ins. of manifold pressure.

WIND TUNNEL SPEEDS EXCEEDING ESCAPE VELOCITY have been achieved at the Air Force's Arnold Engineering Development Center, Tullahoma, Tenn. The short-lived velocity was clocked at 32,400 mph., which is about 9 miles per second and nearly twice the speed required to place a satellite into orbit. Escape velocity is 7 miles per second.

TURBOPROP CONVAIR CONVERSIONS will be produced by Canadair at Montreal from Convair tooling moved from San Diego, where the Convair Liner is being phased out for production of the jet 880 airliner. The Canadair version, powered by British-built Napier Eland turbines, will be known as the CL-66 Cosmopolitan, grossing 53,200 lbs., cruising 326 mph., carrying 44 to 60 passengers and ranging up to 1,700 miles. The Royal Canadian Air Force has ordered 10 of the ships.

BATTLEFIELD USE OF BENDIX-DECCA NAVIGATION SYSTEM is planned for Army field service, with tanks, vehicles, helicopters and artillery spotters having a minute-by-minute "road map" while Army field headquarters maintains an instant "fix" on all fighting units.

THREE BEECHCRAFT L-23D ARMY TWIN-BONANZAS left last month on a 15,500-mile Army delivery flight to Japan in command of Lt. Col. Raymond Evers. The route was from Fort Belvoir, Virginia, through Europe and the Middle East, Thailand, Manila, and Okinawa.

SHARP INCREASES IN THE NUMBER OF PILOT CERTIFICATES have been reported by CAA for the first half of 1957 over the same 1956 period. Student pilot certificates numbered 39,006, up 64%; private pilot certificates issued totaled 12,134, up 42%; 16,479 commercial pilot certificates were issued, up 80% and airline transport certificates issued were 2,643, up 33%.

GENERAL AVIATION FACILITIES PLANNING GROUP presented a citation to George E. Haddaway, publisher of FLIGHT MAGAZINE, for his services as organizer and first chairman of the GAFPG, which is composed of eleven national aviation organizations embracive of all segments of general aviation. The presentation was at a luncheon in Washington and was made by Dr. Leslie A. Bryan, chairman of GAFPG and director of the Institute of Aviation, University of Illinois.

NEW JET AIRLINER FOR 1964 is the 600-mph., 100-passenger DH-121, to be built by Airco, a group formed by de Havilland, Hunting and Fairey of England. It has three Rolls-Royce Conway by-pass jets near the tail.
—(de Havilland Sketch.)

FLIGHT MAGAZINE

MARCH, 1958 VOL. 47, No. 3

THIS MONTH'S COVER presents the newest addition to Cessna's line of business planes, the 4-place Model 175. It is powered by a new Continental GO-300-A 6-cylinder engine rated at 175 hp. at 3,200 rpm. maximum and continuous and has a 0.75 to 1 reduction gear for the propeller. Top speed is 147 mph., cruising speed 139 mph. at 70% power. Price is $10,995.
—(Cessna Photo.)

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GEORGE E. HADDAWAY, Editor-Publisher; TOM ASHLEY, Managing Editor; FRED N. STONES, JR., Business Manager; LOUISE ROBERTSON, Circulation; E. H. PICKERING, Consultant; P. O. Box 750 (2700 N. Haskell Ave.), Dallas, Texas — Telephone TAylor 3-6191.

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For Navy missilemen...a "bird" in the hand

His hands hold the firepower of an entire fleet packed into one guided missile – an awesome "bird" that carries a nuclear warhead. It is Chance Vought's *Regulus II*, a supersonic missile that will join the Navy to give the U. S. unmatched missile striking power. No promise for tomorrow, it is available *today*.

Regulus II is the big brother of *Regulus I*, the Navy missile with a 3-year hitch. A Fleet veteran, *Regulus I* has proved its uncanny accuracy and remarkable reliability in more than 650 launchings.

These are America's ready-to-go missiles . . . engineering triumphs that mean accurate, deliverable power for your Nuclear Navy. They are being produced by Chance Vought – pioneer U. S. missile-maker with an unequaled backlog of working knowledge in the development of surface-to-surface missile systems.

CHANCE VOUGHT AIRCRAFT
INCORPORATED · DALLAS, TEXAS

HERE'S A REPORT ON THE ORIGINAL PIPER PA-18-A

70,000 Acres . . . 4½ Seasons . . . 3 Hours Down Time

The original Piper PA-18-A N1627A was delivered to Illinois Crop Spraying Company five years ago. Here's a report on this airplane from Bob Bankson who, with partners Norman McCoy and Phyl Bankson, operates from McCoy Airport, Blue Mound, Illinois:

"27A has been pretty good to us. We've steered her around some 70,000 acres, haven't given her more than a semi-annual wax job and a yearly shot of preventive maintenance and she still looks like new. We've a small operation that depends on efficiency and fixing things before they break (that's possible because Piper parts are readily available) and 27A's 'down time' in 4½ seasons has lost us less than 3 hours' work . . . That's really something, considering that we've had her working from Wisconsin pea fields, flying from Mississippi roads and off Kentucky hill sides.

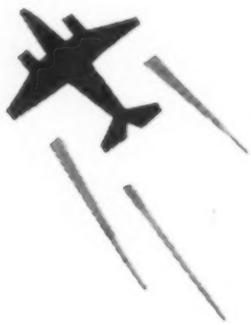
"We've a couple of other PA-18-A's, 150 horses each. One of these we have on power line patrol all of the time, (that's another story in itself); the other we allow to be pushed over the country by our full-time pilot, John Benepe. John (who put most of the acreage on 1627A) put the E in efficiency this last season when he flew 24,500 acres in one PA-18-A without losing a single acre by equipment malfunction. Every acre of that total was flown on the east side of the Mississippi River, too, where the fields are measured in acres instead of quarter sections."

YOU, TOO, CAN PROFITABLY USE THE PIPER PA-18-A IN YOUR SPRAYING OR DUSTING PROGRAM

The PA-18-A, factory equipped for spraying, dusting or both, is the most widely purchased agricultural airplane in the world. With 150 horsepower Lycoming engine, the PA-18-A has a capacity of 110 gallons of spray or 18 cubic feet of dust. Equipment is quickly convertible for dusting or spraying operations. High payload, extremely short take-off and landing capability, excellent visibility, good slow-flight characteristics, exceptional safety and minimum maintenance — these are the features that make the PA-18-A the favorite of experienced applicators throughout the U.S. and in 40 other countries. For new full-color brochure, write Dept. 15-F, PIPER AIRCRAFT CORPORATION, LOCK HAVEN, PENNSYLVANIA.

PIPER
AIRCRAFT CORPORATION
LOCK HAVEN, PA.

MORE PEOPLE HAVE BOUGHT PIPERS THAN ANY OTHER PLANE IN THE WORLD



ST. LAWRENCE OR RIO GRANDE *Esso is there . . . at 600 airports from Maine to Texas!* Even business trips are pleasure trips — when you make a habit of putting down where there's an Esso Aviation Dealer. They're world-famous for their fine service (and, of course, for their fine Esso fuels and lubricants too!) And here's a smart tip: get an Esso Aviation Credit Card. It's your passport to charge-account convenience with *any* Esso Aviation Dealer. Lets you charge gasoline, oil and lubrication *plus* tire and battery service, landing fees, overnight in-transit storage and minor emergency repairs.

FREE TO PILOTS! For your free copy of "You and Instruments" by Col. Duckworth, packed with important information, be sure to see your nearest Esso Aviation Dealer.

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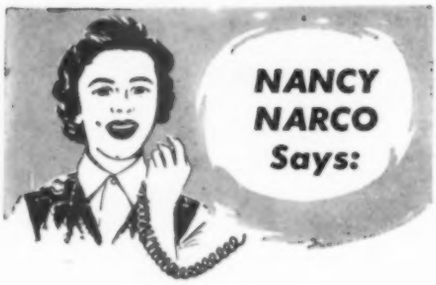

HOW ABOUT BETTER TOWER IDENTIFICATION?

The little guy in a little airplane with just a tunable VHF receiver would sure find life a lot simpler if tower operators would give out with a little more frequent identification. It would help the controllers, too, in their work.

At many metropolitan areas there are several towers operating on adjacent frequencies. For instance, in New York you have Newark on 118.3, Westchester on 118.5, LaGuardia on 118.7, Idlewild on 119.1, Teterboro on 119.5. It's very easy to tune to what you think is Westchester only to find, sometimes embarrassingly late, that you're tuned to LaGuardia. All this would be prevented if the various towers would slip in a word giving identification a little more frequently.

What the boys in the greenhouse forget is that not every airplane is equipped with crystal-controlled or crystal-calibrated tuning. With just a tunable receiver you have to rock your needle around until you stumble onto the tower or ask for a short count.

"Whistle-stop" tuning, which was first introduced on the Narco Simplexer transceiver, is now standard on the Narco Omnigator Mk II and the VTA-3, 27-channel transmitter attachment. All you do to tune a tower is set your transmitter to the tower frequency, turn the "whistle-stop" function switch on, tune your receiver until you hear a high pitched hum. That means you're tuned precisely to your transmitter frequency. Then turn off the "whistle-stop" and know you're tuned to the tower.

Another point on tower technique is to tune the tower 15 or 20 miles out. Don't wait until you're practically over the field before going through that procedure. By tuning in early, you get a pretty fair picture of what landing conditions are, what other traffic is around. And the tower boys can do a better job if you give them a call 10 minutes out.

See you next month.

Nancy

NARCO • Fort Washington, Pa.

P.S. A salute to Vero Beach (Fla.) radio. Jammed with VFR flight plans as they are, they still sign off with a very amiable "Have a pleasant trip."

narco VOA-3

A Precision Omninavigation System for Use with the

• NARCO SAPPHIRE 1016

• NARCO SIMPLEXER

Here's the Narco VOA-3—a completely new omninavigation instrument of extreme accuracy and reliability. It is designed specifically to add the Omni and ILS Localizer functions to the crystal-controlled VHF receiver section of the Narco Sapphire 1016, or the Narco 27-channel Simplexer, business aviation's most widely used VHF communications unit.

Designed to fit any standard instrument cut-out, the VOA-3 provides four-in-one presentation—"left-right", "to-from", selected course and reciprocal bearing. The VOA-3 is built to highest standards for dependable IFR use and has factory-certified accuracy of plus or minus 2 degrees.

The VOA-3 was made to order for aircraft already equipped with a basic omninavigation system and the 1016 or Simplexer for communications. By adding the compact, lightweight VOA-3 you gain the advantage of a second, highly accurate VOR/ILS Localizer system for added ease and safety in cross-country navigation.

TOTAL WEIGHT—FOUR POUNDS

VOA-3 indicator fits any standard 3⅛" instrument hole, is only 1¾" deep. Shock-mounted converter can be remotely installed, weighs 3.3 pounds. System is easily added to existing Sapphire 1016 or Simplexer units which have provisions for this installation.

See your Narco dealer or write for full details

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NATIONAL AERONAUTICAL CORP., FORT WASHINGTON, PA.

Announcing...

THE NEW JET-PROP
LOCAL SERVICE VISCOUNT

... a new short-sector aircraft to meet the high-frequency and economy demands of local service routes.

Proved Performance

Backed by over one *million* hours of world-wide operating experience with over 250 Viscounts. Performance-proved Rolls-Royce jet-prop "Dart" engines are unsurpassed for reliability and ease of maintenance.

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27 airlines report, "wherever the Viscount flies, traffic figures rise"—an average of 35%. Reason: jet-prop's smooth, silent speed and comfort. Viscount is the plane *more* passengers ask for by name.

High-Density Capacity

Accommodations for up to 65 passengers. Handsome interior furnishings are exceptionally hard wearing. Carry-on baggage racks are provided.

Low Operating Costs

As demonstrated by actual airline experience, Viscount operational costs are lowest of all modern 4-engine aircraft. The new local service Viscount will be highly economical even on the shortest routes.

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Can operate from 5000′ runways (shorter with slightly reduced weight) . . . can fly up to 5 short sectors without refueling or ground servicing.

Rugged Construction

In this Viscount development special attention has been paid to the conditions of low-level operation. The landing gear and systems operated in the landing and take-off cycle are particularly rugged.

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Cargo can be loaded while #4 engine is running, driving generator and hydraulic pump, permitting internal starts . . . underwing fueling (in addition to overwing) . . . integral passenger steps hydraulically operated.

Further Information . . .

For a complete cost analysis of *your* specific routes by an experienced Vickers engineering team, call or write: Christopher Clarkson, U.S. representative, 10 Rockefeller Plaza, New York 20, N. Y.

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VICKERS LOCAL SERVICE VISCOUNT

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with the NEW *MITCHELL* AUTOPILOT

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• SUPERLATIVE PERFORMANCE

CAA Approved:

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Others Pending

The new MITCHELL AUTOPILOT is the first and only all transistorized automatic pilot maintaining three directional control. The lightest in weight — only 8 lbs. installed — yet unsurpassed in performance and dependability. Operates on the mere sense of electricity using only 1/10 amp. at 12 volts in quiescent condition — requires no warm-up.

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Will Rogers Field
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THREE GREAT *Commanders*

PRESSURIZED ALTI-CRUISER

This 4 to 6-place Commander is the first and only pressurized twin-engine transport built expressly for business. High speed, high-altitude comfort, all-weather air conditioning, optional lavatory compartment and handsome new interiors are but a few of the performance and comfort features of this new supercharged Commander.

SUPER 680

A favorite with men in a hurry, this supercharged business transport delivers the executive team to its destination ahead of all competition. The 7-place 680 Super is the fastest airplane in its class with a top speed of 260 mph and a cruise speed of 230 mph.

Look to the Leader
FOR * PERFORMANCE
* COMFORT
* SAFETY

560-E

A wider wing span plus powerful new Lycoming high-compression engines give the 560-E great range and load carrying capabilities. This 7-place model of the Commander is the most comfortable and luxurious airplane in its price class.

Illustrated brochures and new "Tailored to Business" Lease-Finance Plan are available on request.

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NEWS BULLETIN FOR MANUFACTURERS:

Grows Hair on Billiard Ball – No Sale!

HISTORIC RESTORER LACKS DISTRIBUTION

A Hair Restorer, so potent it grows crew-cuts on billiard balls, is not being sold because its maker has no field distribution, it was learned today.

Thus, Manufacturer Bertram B. B. Botts, Esq., is in the frustrating position of enjoying few, if any, sales with a product potentially worth billions. Incidentally, he also is up to his neck in Hair Restorer and crew-cut billiard balls.

Mr. Aviation Manufacturer, if you have a fine product but poor distribution, there may be a moral here for YOU. In the Jet Age, your problems will multiply as never before. Users of jet equipment will require you — perhaps by contract — to guarantee never-failing parts support in the field.

Southwest Airmotive can't handle Hair Restorer, but in the distribution of aircraft and engine units and components, we have one of flying's most capable and experienced teams. We are boosting sales and improving relationships between manufacturers and their airline and private aviation customers throughout Midwestern and Southwestern USA.

To the 25 leading manufacturers whom we now represent, we have brought around-the-clock, personal field contact and liaison; longer production lead-time; advertising, and effective on-the-spot inventory and salesmanship.

To the customer, we have brought convenience; a vital "second source"; shorter lead-time, and savings in inventory, freight, and obsolescence, to name but a few of the benefits.

Should you not be satisfied with your own distribution, contact: Marketing Manager, Southwest Airmotive Distribution Division, Love Field, Dallas, Texas.

Southwest Airmotive Co.

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1932 — A QUARTER CENTURY OF LEADERSHIP — 1958

Just among ourselves

Where There's Smoke, There's Fire

BOTH the Civil Aeronautics Board and the Civil Aeronautics Administration, the two principal Federal agencies with the power to make or break commercial aviation, depending on their interpretation of the Civil Aeronautics Act of 1938, as amended, are once again moving toward hamstringing rather than assisting the development of aeronautics in these United States.

Far from being the first time such conditions have obtained, the present situation is somewhat unique in that both agencies are simultaneously in the doghouse with the industry they are supposed to foster and help. Usually one or the other goes off the deep end in policy making — not both at the same time.

It has been obvious for more than two years that the Civil Aeronautics Board was drifting into a state of bureaucratic bungling, completely insensitive to the needs and demands of civil aviation, especially in the field of expanding our domestic air transport system and in the orderly dispatch of aviation problems the Board alone is empowered to solve. Coincidentally, the Department of Commerce high-level control of the Civil Aeronautics Administration has foisted ruinous, short-sighted top policies on an ingrown bureaucratic organization in which the negative approach is par for every course — despite the public pronouncements from top CAA leadership that CAA is the best friend civil aviation ever had. Nice friendly words are followed by throat-cutting policies and proposals that are beginning to insult the intelligence of every civil airman and related aviation taxpayer whose life and fortune are pawns in the hands of the bureaucrats.

While there might be some solace in the knowledge that a new civil aeronautics act is in the process of being written by White House and Congressional direction, there is no guarantee the new act, if acceptable and passed, will get us out of the bureaucratic doldrums and provide an independent agency or related agencies atune to the times and requirements. We certainly will have to live with the present act and the present agencies for some time to come.

Department of Commerce leadership under Sinclair Weeks and Louis S. Rothschild presents one of the saddest commentaries on U. S. civil aviation in all history. What little progress manifests itself nowadays is in spite of these men, who have consistently cut the rug out from under the CAA and practically destroyed its former role as an agency primarily concerned with civil aviation progress. The tragic airways mess, the inadequate airport program as well as all the other problems besetting the agency since the present administration took over can be traced directly to the Weeks-Rothschild demolition squad, which has scuttled every practical program researched and prepared by career aviation men at the working level of CAA. These CAA men saw the handwriting on the wall as regards the air traffic situation, the airport program and safety policies long before the present adminstration came into power. For awhile we simply thought the Department of Commerce leadership was inept. But no one could have had as lousy a batting average in aviation administration, so it now looks more like a full-fledged conspiracy against any kind of Federal sponsorship of civil aviation progress.

The situation isn't any better over at the Civil Aeronautics Board, even though it is independent and unhampered by DOC politics. The Board is hopelessly lost in a morass of ever-mounting cases which, if allowed to stack up, will simply choke the CAB out of existence. Here is a clear case of ineptness. It is too bad the entire Board can't be fired and a completely new one invested with its responsibilities. Some of the cases will not be heard for several years, so slowly do the wheels turn. It is logical to assume that the current Congressional investigation of all Federal regulatory agencies will pour fuel on the fire to replace our outmoded Federal aviation agencies at the earliest possible moment.

As a case in point, the Civil Aeronautics Board for about a year now has been trying to impose new air traffic regulations in Part 60 of the Civil Air Regulations. February 28 was the deadline for industry comment. Quite fortunately general aviation interests got together to present a united front on the matter of these changes. We should know soon what effect the industry voice will have. If ignored, one thing is certain — it will produce the widest breach between government and industry in all the 20 years of operating under the Civil Aeronautics Act of 1938. We're all dead-tired of restriction piled on restriction.

It is becoming clearer all the time that Washington planners are incapable of seeing farther than the ends of their noses. They want the easy way out — it would suit their ends to solve traffic problems simply by doing away with most of the traffic, which is general aviation. We've got news for them — it will not be as easy as they expect to make half-baked, opportunistic and unrealistic restrictions stick. Congress can and will listen to reason.

These manifold indications of bureaucratic deterioration within our Federal aviation agencies are probably signs of rigor mortis setting in, and everyone with any kind of stake in civil aviation should make it his or her business to see that the new act, which is supposed to establish a new and independent agency, does not perpetuate any of the structural weaknesses or impossible systems that have hamstrung aviation progress. If the industry is wise it will look upon the proposed legislation as one of the most valuable opportunities in recent aviation history and, through our trade associations, have a hand in its drafting. And the further we can get from Department of Commerce interference and the kind of system under which the present Civil Aeronautics Board operates, the better off we'll be.

THE NEW 200 *mile-per-hour*
BEECHCRAFT TRAVEL AIR

the QUIETEST
plane in the skies

So quiet you won't believe it... so vibration-free it's like sitting in your own office... so luxurious, so smooth, so much more for your money... that's the All-New Beechcraft Travel Air for 1958. A demonstration ride will prove that this is the truly outstanding airplane in the light twin field!

A quarter century of experience has gone into the New 1958 Travel Air. Its rugged and right design assures maximum performance and durability. But with rugged construction also comes the beauty and distinctiveness of superior styling.

The Travel Air gives more time to manage, more time to sell. Montreal to Mexico City is an easy Travel Air trip with just one stop for fuel!

Simplicity of flying plus visibility

One of two spacious luggage compartments

Complete accessibility for servicing

The four-place *Beechcraft* Travel Air
RANGE – up to 1,410 miles nonstop
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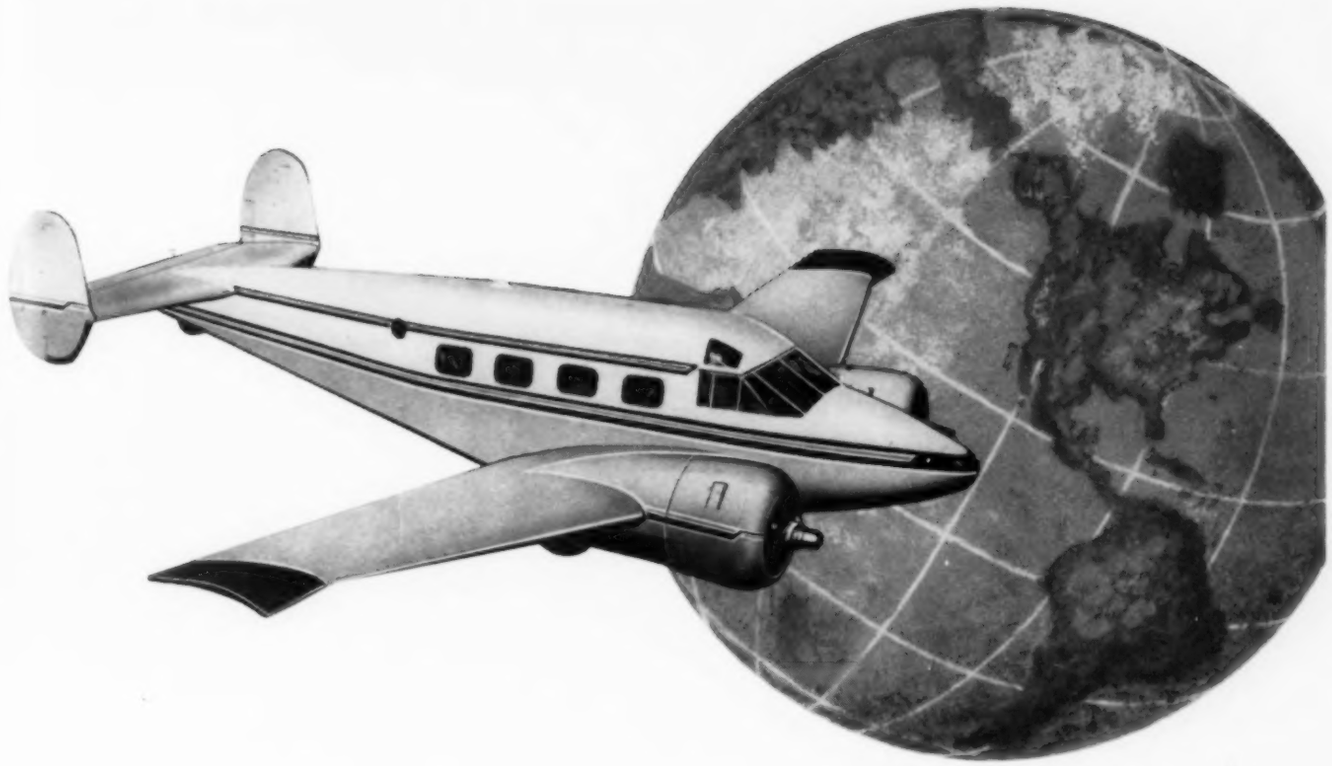

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Everybody understands why the Armed Services use helicopters . . why the off-shore oil operators do . . why the map makers do. But why should *your* competitor use a Bell? Is it (1) because planes bore him? (2) To cause talk at the Club? (3) To make *his* competitors envious? (4) To beat the five-o'clock scramble?

Oddly enough, these are four excellent reasons why he *does*. Point by point, here's a typical Bell user's story: (1) Airplanes, large and small, are fine for long hauls; it's the short jumps they can't handle . . the boresome trips to the airport, to the nearby customer, the nearby plant. Only the helicopter can save these hours . . change them back into productive time. (2) The company with the Bell *does* get talked about . . when the helicopter ferries in a VIP, helps the mayor cut a ribbon, and particularly when it saves a life. (3) Competitors are envious indeed, when word spreads that the Bell operator has licked a major overhead cost. (One utility saves $200.00 on every line transmission patrol by using the Bell for fly-and-hover inspection.) (4) The five o'clock scramble — and the eight o'clock — are wasteful and enervating to the top executive. Logically, many companies owning Bells provide their top boss with a serene, quick, all-weather trip by helicopter.

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Perhaps we still haven't touched on your type of operation . . but we'd like to send you Bell-user case histories that will. If you'll drop us a note on your letterhead, we'll open our files, and send you, also, information on Bell's own LEASE/PURCHASE PLAN and on independent CHARTER HELICOPTER SERVICE. Write Dept. 12C, Bell Helicopter Corporation, Fort Worth, Texas.

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Watch "WHIRLYBIRDS" on TV . . consult your local paper for time and station.

Here's the newest Cessna four-place on the familiar ramp at Wichita Municipal Airport. Its 175-hp. geared engine with fixed-pitch prop gives the $10,995 Model 175 a 147-mph. top speed, 139-mph. cruise speed and a 1,048-lb. useful load.
—(Cessna Photo.)

Cessna's New Model 175

Continental's new geared engine delivers 175 hp. for more performance

ANOTHER new model — its fifth in single-engine aircraft — has been added to the expanding line of Cessna Aircraft Company's business planes with March deliveries of the new 4-place, 175-hp. Model 175. It is aimed at the market gap between the firm's 145-hp. Model 172 and 230-hp. Model 180-182 series both in performance and price.

With a $10,995 price tag and cruising performance including 147-mph. top speed and 139-mph. cruise speed, the tricycle Model 175 costs $2,000 more than the Model 172 and $4,855 less than the Model 180. Cessna's line of single-engine 4-place airplanes now consists of the following:

	Hp.	Cr. Spd., Mph.	Price
Model 172	145	124	$ 8,995
Model 175	175	139	$10,995
Model 180	230	160	$13,850
Model 182	230	155	$14,350
Model 182 Skylane	230	158	$16,850

Cessna has a sixth single-engine model yet to be added to its line. It will be a 150-hp. 2-place Model 150 priced at about $7,000. No announcement for it has been made and production and marketing details are not believed finalized.

All of the four-place Cessnas use the same basic airframe dimensions and wing area. The Skylane comes equipped with speed fairings or wheel pants for landing gear and includes radio and other equipment as standard.

The new Model 175 will be introduced at a series of dealer showings on March 29-30. A mass flyaway delivery from the factory for those showings is expected to surpass in numbers of airplanes all former flyaways, the latest of which sent more than 100 of the plush new Skylanes away from the Wichita factory in a single delivery batch. Something like 150 or more Model 175's can be expected to make up the first delivery batch of the newest model.

Factory data on the 175 accompanying this article will show in numbers and figures the advantages in performance which the new model will offer for its $2,000 higher price over the Model 172. These include:

30 more horsepower
98 lbs. more useful load
35.69 lbs. more basic engine weight
52 lbs. more empty weight
150 lbs. more gross weight
12 mph. more top speed
15 mph. more cruising speed
76 to 100 miles more range
5.5 gals. more useable fuel capacity
10 to 36 minutes more endurance
2,600 ft. more service ceiling
190 fpm. more rate of climb

These are all worthwhile improvements which will find a ready market for aircraft users who would like more than the popular Model 172 offers but who are not ready or able to advance all the way up to the model 180-182 series with its still higher performance and costs.

Another way to classify the new 175 is to view it as almost filling the performance gap left vacant by the 205-hp. Navion, which has held the

The Model 175 has a larger McCauley propeller than is used on the Model 172 to go with its more powerful engine, more fuel capacity and more performance in general. Note free-blown windshield. Wheel pants shown are optional equipment.
—(Cessna Photo.)

140-mph. cruising category to itself since it went out of production.

Engine development makes possible Cessna's upgrading from the 172 for the 175 offering. Its power plant is Continental's new 6-cylinder GO-300-A, a development of the Model 172's O-300-A with the "G" signifying the incorporation of a geared propeller drive. This allows Continental to increase the 300-cu. in. engine's output from 145 hp. at 2,700 rpm. by turning it faster and obtaining 175 hp. at 3,200 rpm. for both maximum and continuous output. The gearing, installed on the nose of the engine, reduces the crankshaft' speed about one-fourth so that propeller speed is 2,400 rpm. at a rated engine speed of 3,200 rpm. Gear ratio is .75 to 1. An 84-in. McCauley fixed pitch propeller is used.

This rated engine speed can be maintained by the geared engine up to an altitude of 10,000 ft. for increased engine-airplane efficiency.

The GO-300-A uses the basic engine power section of the O-300-A with some changes to go with the higher horsepower, such as higher-strength connecting rods, larger piston pins and improved design of the cylinder head-to-barrel connection for higher power. Fuel is 80 octane and compression ratio is 7.3 to 1 as compared to 7 for the straight-drive engine. Bore, stroke and piston displacement are the same for both engines, being 4.0625-in. bore, 3.875-in. stroke and 301.37-cu. in. displacement.

The geared nose section incorporates Continental's two-gear design which has enjoyed outstanding success in other Continental engines. William A. Wiseman, Continental's aircraft engine division chief engineer and quality director, says this system offers the simplest type and most reliable reduction gear design.

"A new feature of considerable interest has been incorporated in the GO-300-A's gear system," Wiseman told FLIGHT MAGAZINE. "It is the use of a quill shaft between the crankshaft and the reduction gears.

"As those familiar with engines know, torsional vibrations are common to all in-line engines and particularly so with geared in-line engines for the reason that a critical

Continental GO-300-A

Factory Data

TYPE — 6-cylinder, overhead valve, air-cooled, horizontally-opposed, with wet sump and propeller reduction gear unit.

RATING: At sea level pressure altitude and 80/87 oct. aviation gasoline minimum, 175 brake hp. at 3,200 rpm. for take-off and maximum continuous operation.

WEIGHTS: Basic engine, including lubrication system, tachometer drive, vacuum pump drive, generator drive, engine mount brackets, steel barrel cylinders and pendulum type dampeners, 286 lbs. plus magnetos 13.5 lbs.; shielded ignition system 4.88 lbs.; 12 shielded spark plugs 2.5 lbs.; carburetor 5.13 lbs. and accessory drive cover 0.2 lbs. — total basic engine dry weight, 312.21 lbs. Weight of engine accessories: Starter, 15.5 lbs.; 20-amp. generator, 10 lbs.; 35-amp. generator, 16 lbs.; voltage regulator, 1.68 lbs.; oil cooler, 3.81 lbs. and exhaust flanges, gaskets and nuts, 0.8 lb. — total dry weight with 20-amp. generator, 344 lbs.; with 35-amp. generator, 350 lbs.

DIMENSIONS: Length 39.12 ins., width 31.5 ins., height 27.62 ins.

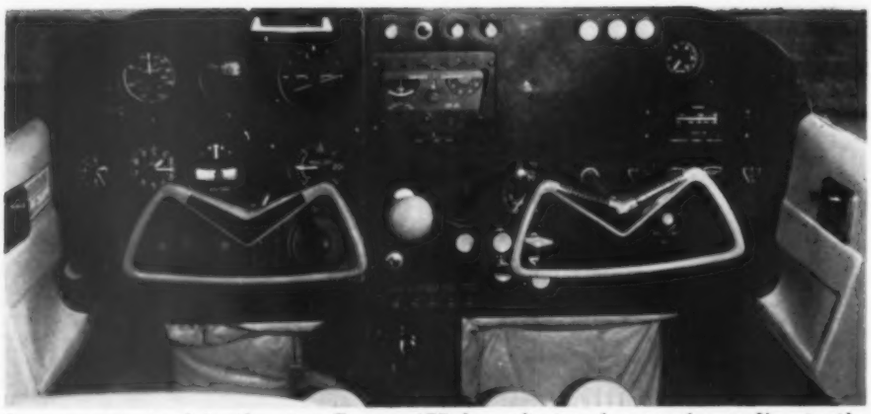
BORE, STROKE AND DISPLACEMENT: Cylinder bore, 4.0625 ins.; stroke, 3.875 ins.; piston displacement, 301.37 cu. ins.

COMPRESSION RATIO: 7.3 to 1.

PROPELLER SHAFT: Flanged propeller shaft. Gear reduction ratio is .75 to 1. Six third-order vibration dampers are provided on the crankshaft.

CARBURETOR: Marvel-Schebler MA-4-5, float-type.

OIL SUPPLY: Wet sump, 10-qt. capacity. Based on outside air temperatures, SAE 30 oil is recommended below 40 deg. F. and SAE 50 above 40 deg. F.



Instrument panel in the new Cessna 175 has plenty of room for radios to the right of the flight instruments, which are grouped in front of the pilot. Electrical switches are grouped at top of the panel.

—(Cessna Photo.)

Cessna 175 and Cessna 172

Factory Data
March 3, 1958

	Model 175	Model 172
Price	$10,995	$8,995
Engine, Continental Model (6 cyl.)	GSO-300A	O-300-A
Hp. @ rpm., max. and continuous	175-3,200	145-2,700
Basic Engine Wt., less starter and generator, lbs.	312.21	276.52
Fuel Cap. gals., total useable	52-43	42-37.5
Gross Wt., lbs.	2,350	2,200
Empty Wt., lbs.	1,312	1,260
Useful Ld., lbs.	1,048	940
Speed—		
Max., sea level, mph.	147	135
Cruise, mph.-ft. alt.	139-10,000	124-7,500
Range—		
Mph.-miles-hours-ft. alt.	139-595-4.3-10,000	124-519-4.2-7,500
Mph.-miles-hours-ft. alt.	102-720-7.0-10,000	97-620-6.4-7,500
Rate of Climb, fpm.	850	660
Service Ceiling, ft.	15,900	13,300
Luggage Cap., lbs.	120	120
Span, ft.	36	36
Length, ft.-ins.	24	25
Height, ft.-ins.	8-6	8-6
Wing Area, sq. ft.	175	175
Wing Loading, lbs.-sq. ft.	13.4	12.6
Pow. Loading, lbs.-hp.	13.4	15.2

NOTE: All performance is for gross weight at sea level unless noted. Fuel, aviation 80 octane. Oil, SAE 30 for OAT below 40 deg. F., SAE 50 above 40 deg. F.

Cessna has perfected outstanding interior finish for all of its four-place airplanes and the Model 175's cabin is especially attractive.

—(Cessna Photo.)

speed occurs in the operating speed range. This means only that it is necessary to provide pendulum-type vibration dampeners to de-energize the torsional input into the crankshaft reduction gear and the propeller system. As an example, we might expect this critical speed to occur at 2,800 rpm. But by the addition of a quill shaft of proper design, we can transfer this critical speed to a point below the cruising range — down, for example, to 2,000 rpm. This greatly improves the ability of the dampeners to produce a torsionally smooth system at cruising speed. The quill shaft also softens the drive to the propeller and consequently reduces propeller stresses."

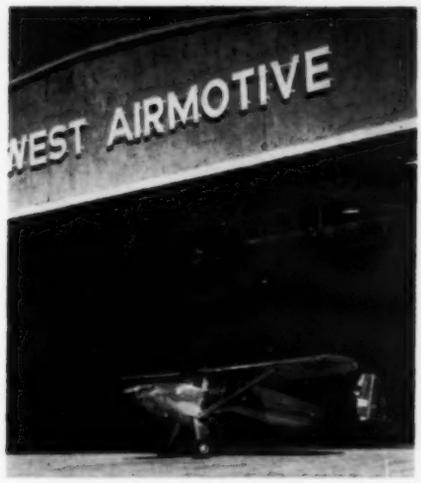
Wiseman says that the new geared nose section offers future additional drives which may be desired later for the engine without disturbing the standard accessory case drives on the rear of the engine, thereby eliminating any future changes in tooling for the rear of the engine. Additional drives which can be provided in the geared nose are two accessory pads for vacuum pump, hydraulic pump or fuel pump, the governor drive and a pad for an integrally-attached oil cooler.

The GO-300-A has a recommended overhaul time of 600 hrs. It has an integrally-mounted oil cooler without external lines and uses a Marvel MA-4-5 float-type carburetor with intake system routed through the oil sump for improved fuel vaporization and distribution. Engine installation features include the use of a new Lord dynafocal engine mount system and large stainless steel mufflers. A 12-volt battery is located behind the baggage compartment and is accessible through a panel door.

Functional grouping is provided in a new instrument panel, with all flight instruments on the pilot's side, radios at the center and electrical switches grouped along the top of the panel on the right. Engine controls are grouped within finger-tip reach of the throttle. A full size map compartment is on the lower right side. Electric fuel gauges are used and an inside control for fuel drain is located on the lower left side of the panel. At the lower left is a side panel with a convenient map pocket.

A free-blown windshield, with more contour, better optical quality and more rigidity than the hand-formed windshield, is used with a new method of attachment. The top of the instrument panel has been designed with a built-in receptacle for the bottom of the windshield to provide a better seal against the elements and for a more

(Continued on page 37)



Looking small in the door of a large hangar, this little 90-hp. Luscombe has logged over 10,000 hours but is better than it was when new.
—(FLIGHT MAGAZINE Photo.)

3,961,000 Pipe Line Miles by Luscombe

Proving that lightplanes never wear out, these patrol planes are better than new

By TOM ASHLEY

WITH most private planes being flown 250 to 400 hours annually, few owners ever fly the same airplane over 4,000 hours before replacing it. But all will acknowledge that airplanes apparently never wear out. They are replaced mostly because a new model becomes available, incorporating improvements which are worth the investment. New-model replacement has not been possible in recent years, however, with popular all-metal 2-place airplanes. They went out of production after the market was saturated between 1946-49. The industry at that time ran out of improvements when practically all efforts were centered on perfecting 4-place lightplanes. As a result, quite a few thousand 2-place airplanes are flying today with more than 4,000 hours of flight time each. They have proved that little airplanes are just like the larger multi-engine workhorse transports when it comes to wearing out — they never.

A good example of lightplanes literally improving with age is furnished by a fleet of five 2-place Luscombes heavily utilized in pipe line patrol by Magnolia Pipe Line Company. We dropped by Magnolia's shop in Dallas recently to see these Luscombes, curious to know how they had held up since we last rode a Magnolia patrol Luscombe across umpteen hundreds of miles (it seemed at the time) of Ozark Mountains pipe line in Arkansas some years back.

"We still have the same Luscombes but they're flying better than they did when they were new," commented Sam Willis, head of the Magnolia aviation department, which operates a fleet of 12 airplanes out of Dallas. Sam has a DC-3, a Beech D18S, a Super 680 Aero Commander, two 520 Commanders, a Cessna 195, a Cessna 170 and the 5 little Luscombes. In addition, he has a Cessna 180 amphibian and a Bell 47G on the Gulf Coast.

All these Magnolia planes flew a total of 9,100 hours in 1957 — but the little Luscombes logged more time in the air than any of the others, running up 4,026 hours amongst the five of them for an average of about 800 hours per Luscombe during the 12-month period. This, as any pipe line patrol pilot will hasten to assure you, is a whole lot of flying — in a Luscombe or anything else.

One of the Magnolia Luscombes has been operated a total of 10,632 hrs. over Magnolia's lines. Three others have logged over 8,600 hrs. The "youngest" of the lot has piled up 2,624 hrs.

This totals 39,611 hours flown by the 5 Magnolia Silvaires. Each of those hours has been good for a flat 100 mph. as a conservative figure. This means five Luscombes have traveled 3,961,000 miles. Most of this mileage was flown on the tree tops, which is how you have to fly for effective pipe line patrol.

One of them, Serial No. 6282 with its 10,632 hrs., has actually delivered to its owner 1,063,200 miles of hedge-hopping transportation.

This was the airplane Sam started patrolling the pipe line with for Magnolia back in July, 1948. He built the Magnolia fleet up from it after the company learned that airplanes actually pay for themselves in the work they perform. The second Luscombe added was Serial No. 6728, which went on patrol in July, 1949. No. 3 was Serial No. 5739, bought as a used plane and which had been owned by the famous Congressional Flying Club at Washington, D. C. It started pipe line patrol in November, 1949. No. 4 was Serial No. 3916 and went to work in March of 1952 — it had logged 2,643 hours before Magnolia acquired it. The fifth Luscombe, Serial No. 6105, began flying for Magnolia in September of 1955.

The flying these Luscombes do for Magnolia can be pictured in another way. Eleven hours are flown for every 24-hour period at the present rate of

Magnolia's aviation department has its own engine shop and overhauls its 90-hp. Continentals every 500 hrs. Bill Linn (center) is in charge. On the table is a disassembled C-90 engine, with its accessories.
—(FLIGHT MAGAZINE Photos by Tom W. Collins.)

Sam Willis (right) heads the Magnolia air fleet. He is shown here checking an Aero Commander component. Magnolia bases in a hangar leased from Southwest Airmotive.

utilization. The most flying any one of the Luscombes logged in a single month was 152 hours for Serial No. 3916 in June of 1955.

"We have to be ready with our planes for anything," Sam Willis explains. "A particular stretch of pipe may be flown sometimes two or three times more frequently than normally required — this happens when the line carries heavy loads, as in certain seasonal situations, or when there are special hazards or threats to a line, such as during periods of construction alongside the right-of-way, when ditch-diggers, hole-diggers, bulldozers or other machinery might accidentally cut into a buried pipe line."

His chief of maintenance, Bill Linn, always has the planes ready. In the company shops are five mechanics and three porters. They maintain the entire Magnolia fleet, including the Luscombes. Preventive maintenance is the key to high utilization of these airplanes.

Routine inspections and engine changes add up to 1 hour of maintenance for every 4 hours flown by the Luscombes. This becomes 1 hour of maintenance for every 2 hours flown when routine inspections, engine changes, engine overhauls and 1,000-hr. inspections are lumped together.

In addition to routine inspections, each Silvaire receives 25-hr., 50-hr., 75-hr. and 100-hr. inspections. The 25-hr. inspection includes oil change, oil screen check, compression check, spark plug check, visual airframe inspection and follow-up for pilots' squawks. The 50-hr. inspection is the same engine servicing plus thorough fuselage inspection from the firewall to the tail. The 75-hr. inspection is the same engine servicing plus thorough inspection of empennage and wings. The 100-hr. inspection is the same engine servicing plus spark plug change, plus thorough inspection and servicing of the running gear. The 1,000-hr. inspection includes removal of all the interior and thorough servicing of all wiring, fuel system, radio, instruments, interior paint, panel, all cables, wing and control surfaces removed, check on all AD notes, removal of running gear and fuselage wishbone magnafluxing.

During 1957, the five Luscombes received 163 routine inspections, four 1,000-hr. inspections, 8 engine changes and 7 engine overhauls. Ten engines, each a completely-built-up power package, are kept on hand at all times for the 5 Luscombes. All are 90-hp. Continental C90-12F models. Each engine is pulled and overhauled every 500 hrs., regardless of its condition, with a minimum of 4.5 hrs. for run-in following overhaul. The shop performs the complete job.

Luscombe inspections are handled so that they are made during a period which may be 5 hours before or 10 hours after the exact time they fall due. This 15-hr. spread results in each airplane actually receiving an extra weekly inspection.

Willis and his mechanics keep extremely detailed records on the Luscombes as well as the entire fleet. This way, after a couple thousand hours,

One of many "fixes" Magnolia mechanics use in making better airplanes out of its Luscombes is a positive-opening carburetor control lever, loaded with a spring so that it will give full power if the throttle connection should break.

These pipe line Luscombes have long-since been equipped for maintenance as well as good service in the air. Here's the custom panel used. At its left are controls for Dare radios, remotely installed behind the baggage compartment. Horton & Horton interiors provide pilot comfort.

One of five 2-place Luscombe Silvaires used by Magnolia Pipe Line Company is shown on the line. Like all of Magnolia's airplanes, the little Luscombes are kept in tip-top shape and highly polished. The Silvaires are now averaging about 10,000 miles of pipe line patrol weekly.
—(FLIGHT MAGAZINE Photo.)

they get to know almost everything there is to know about each airplane. All of which means they know whereof they speak when they claim their Luscombes are far better airplanes now, even at their ripe old ages, than they were when brand-new.

Take the engines, for example. From thousands of hours and millions of miles of operation, Magnolia has become convinced that chromed cylinder barrels are worth the cost of chroming. Oil consumption, for example, is only 1 quart for every 9 hours of operation. These Luscombes are operated under less-than-ideal conditions at all times because of the demands involved in tree-top flying. They are cruised at 70% horsepower, which is 2,350 rpm., with fuel consumption averaging 6 gals. per hr. More efficient engine baffling is used than was provided by the manufacturer. The shop has also equipped each of the little 4-cylinder Continentals with 25-amp. generators for better radio performance.

Mickey Mouse radio gear was discarded long ago because the shop was plagued with continual pilot squawks about radios. It not only cost as much to locate and eliminate trouble in a cheap radio as in a good one but kept the shop so busy it had difficulty keeping up with other chores. The fix here was to install high-quality Dare radio gear. This ended the squawks. Special racks for the radios were built behind the baggage compartment in the little Luscombes.

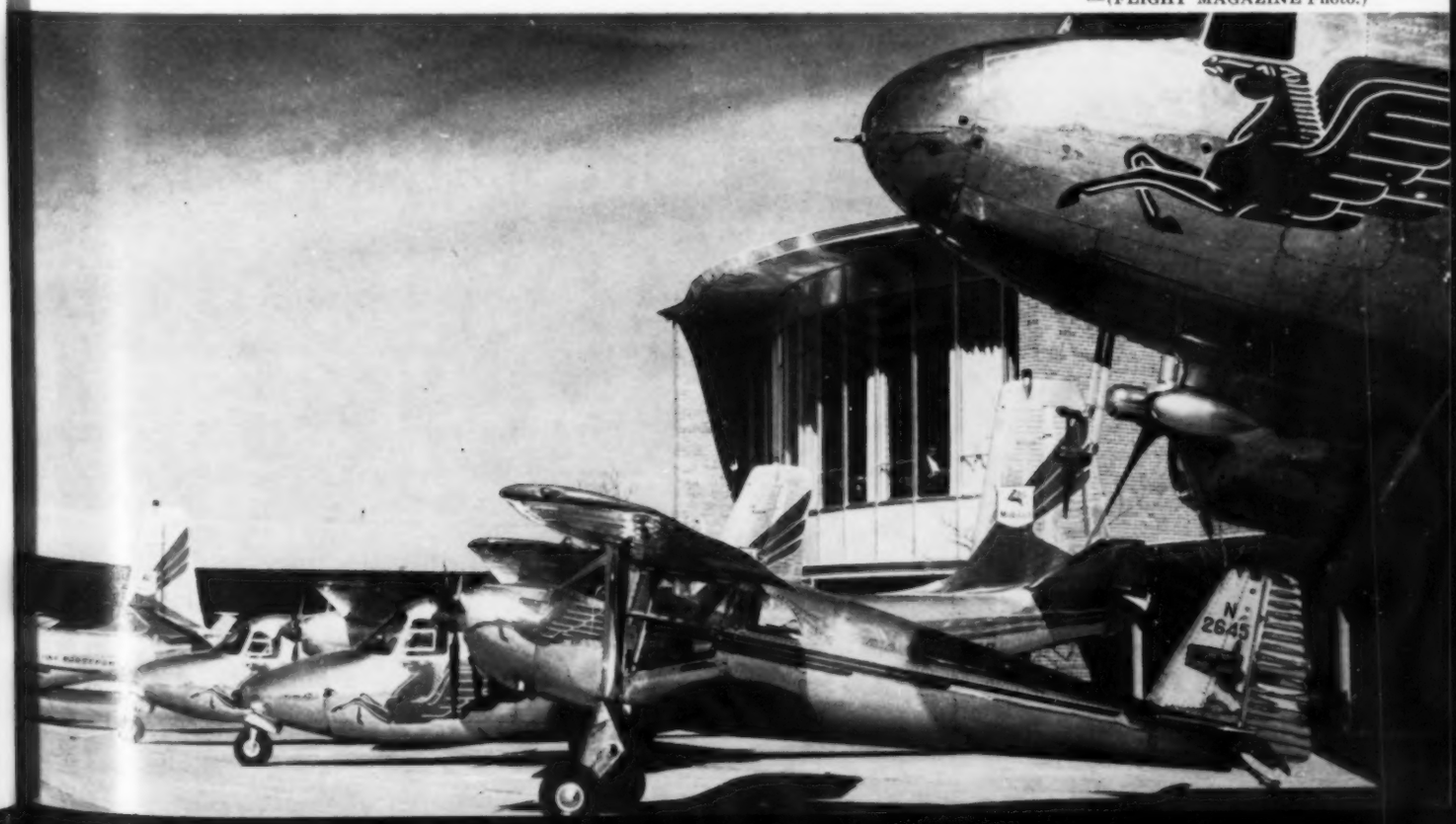
After two forced landings were caused by dime-store throttle controls shaking and wearing loose at the carburetor, the Magnolia shop replaced them with a double-safetied bolt connection. It also loaded a spring to the carburetor control arm so that the carburetor would be sprung open if the throttle became disconnected in flight. What caused the two forced landings was this control arm vibrating shut, thus closing the throttle.

Many improvements have been made for pilot comfort, low-level pipe line patrol being a rugged flying job at best in the turbulence close to the ground. The Magnolia shop perfected its own exhaust-shroud heater so that ample cabin heat is available when needed and installed extra cabin ventilators for cool air in the summer.

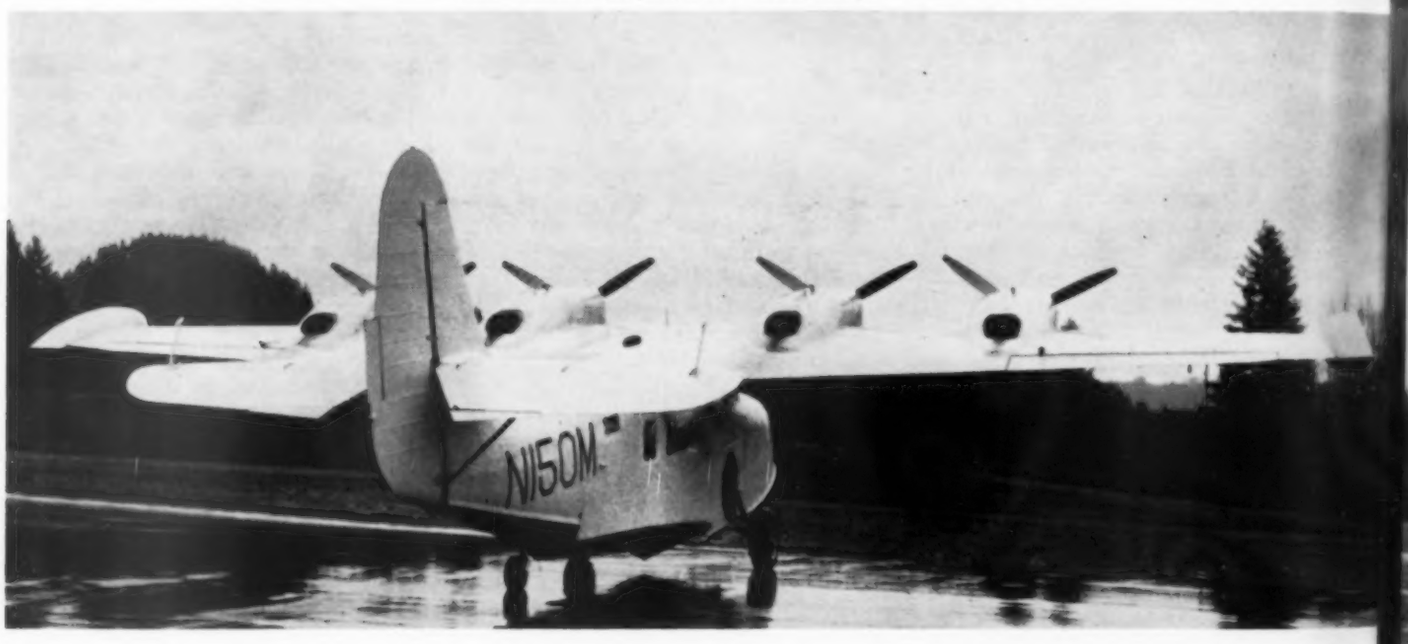
Ever see a Horton & Horton inte-

(Continued on page 37)

Preventive maintenance is the watchword which is diligently followed in operations of the Magnolia fleet of company planes. One of the Luscombes was posed with some of the firm's larger planes to show that it, too, is always ready to go when an assignment is received. In background is Southwest Airmotive's new private terminal for business flying.
—(FLIGHT MAGAZINE Photo.)



Four 340-hp. supercharged Lycoming engines give the McKinnon Goose very high performance for going in and out of small fields, lakes and rivers. It becomes airborne in 10 seconds at 60 mph. at 12,000-lb. gross weight. In view below, note exhaust augmentors above wing.



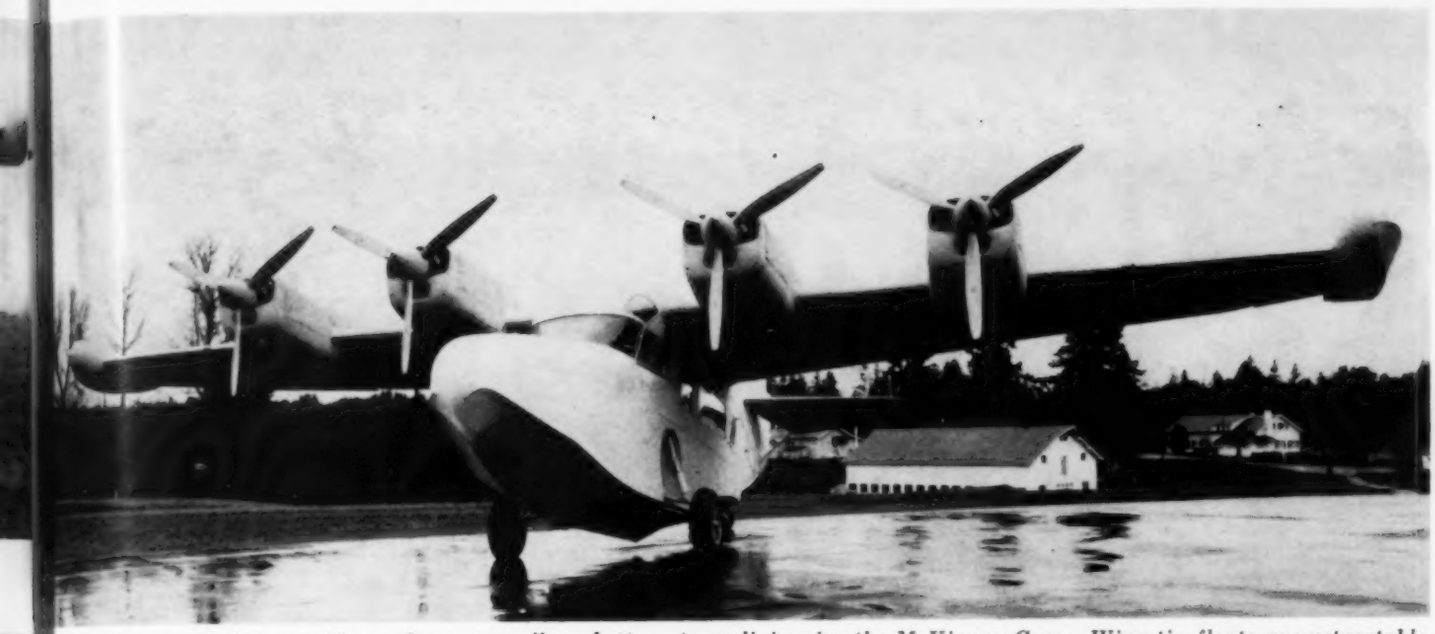
4-Engine McKinnon Goose Conversion

WHEN special-purpose commercial aircraft are needed but can not be obtained from the manufacturers, some enterprising individual with ability to analyze the need usually develops the aircraft himself. Such an individual is A. G. McKinnon of Sandy, Oregon. McKinnon knows the demand for amphibian aircraft and his McKinnon Enterprises came out five years ago with a Super Widgeon Grumman conversion, modified with two 270-hp. Lycoming engines and 3-bladed propellers, which proved so popular that there are now some 76 McKinnon Super Widgeons in operation.

Now McKinnon has come up with a 4-engine Grumman G21A Goose conversion, replacing its two obsolete radial engines with four modern 340-hp. supercharged Lycoming GSO-480-A1A-6 engines driving 3-bladed reversible and full-feathering Hartzell propellers. As with the Super Widgeon, the Oregonian believes there's enough demand for the 4-engine McKinnon Goose to stake a year of development and a lot of cash in his ideas of what the airplane ought to be.

"Initial test flights have proved that the McKinnon Goose will not only be a safe, high-performance executive airplane for regular business transportation but will also be capable of using smaller airports, lakes and rivers in out-of-the-way places," says Jim Welsch of Welsch Aviation Co. of New York, long-time aircraft salesman who also believes like McKinnon and handles all sales except those, roughly, west of the Rocky Mountains, which are handled by the Oregon factory. "This entire program has been financed by McKinnon Enterprises and no efforts have been made to obtain advance deposits. Sales will start as soon as CAA certification comes through, which should be soon."

The McKinnon Goose will get off the water in 10 seconds, climb 2,500



Bow extension provides radome as well as better streamlining for the McKinnon Goose. Wing-tip floats are retractable, serving as tip fences. Three-blade Hartzells are reversible for more effective water handling and docking. Mallard Wheels and brakes are used. Note new one-piece windshield and large 57-in picture windows. Goose originally had two engines.

feet per minute and cruise at 225 mph. on 65% power at 10,000 ft. It lands at only 60 mph. and has a 1,500-mile range with 450 gals. of fuel. Excellent engine-out performance is expected to be confirmed as flight tests progress.

This outstanding performance has been accomplished at a new gross weight of 12,000 lbs., which is 50% greater than the original Grumman Goose weight of 8,000 lbs. At this higher gross, the McKinnon Goose is the lightest 4-engine aircraft flying, the nearest thing to it being the 13,600-lb. de Havilland Heron, which uses four 250-hp. unsupercharged engines. The McKinnon Goose's excel-

(Continued on page 38)

A. G. McKinnon's shop at Sandy, Oregon, is pictured below. Smaller amphibians are Grumman Widgeons converted by McKinnon to Lycoming power. Seventy-six McKinnon Super Widgeons are now operating.

This is Atlantic Aviation's base at Teterboro, one of five operated by the 31-year-old company which has pioneered in aircraft finance, insurance, leasing and other developments as well as aircraft sales and service. Its various bases have distributorships for four makes of aircraft — Beech, Piper, Grumman and Doman helicopters. Their territories are the heavily-populated region between North Carolina and Canada.

—(Atlantic Aviation Photo.)

Atlantic Aviation

A pioneer firm's modern approach to aircraft sales and service

By GEORGE E. HADDAWAY

FEBRUARY is hardly the best month of the year to flit about the Northeastern section of the country in search of business airplane editorial material; however, we were blessed with spurts of good weather last month in between fast-moving, snow-laden cold fronts and managed to do something we have wanted to do for a long time — visit the main bases of Atlantic Aviation Corporation that stretch from Boston, Massachusetts to Lynchburg, Virginia, and serve that most densely populated area of the United States lying between the Canadian border and Carolina.

Atlantic Aviation is unique because no other business airplane concern operates on as many airports or has as many aircraft franchises, boasting as it does three Beech distributorships, one Piper distributorship (Atlantic Aviation Service, Inc.), one of the three national franchises for the Grumman "Gulfstream" executive propjet transport and a distributorship for Doman helicopters. Last year the company accounted for 10 percent of Beech domestic commercial sales.

With ever-expanding facilities at Boston, Teterboro, Philadelphia, Wilmington (2) and Lynchburg, Atlantic can lay claim to the distinction of being the oldest and the largest concern in the East devoted to business aviation operations. Established in 1927 and still owned by Henry B. duPont of Wilmington, Delaware, this extraordinary company has literally been "over the road" in every phase of business airplane history, through the Lindbergh boom and bust, the hamburger days, the World War II training era and the postwar maturity of the business plane and its now fruitful market. Few people realize Atlantic pioneered in such fields as aircraft finance, aviation insurance, commercial leasing, internal revenue problems affecting depreciation and justification of aircraft for business purposes, and practically every phase of aircraft merchandising and servicing. Little wonder with such a rich background of trial and error, of tackling problems in the business never before solved, that Atlantic has come up with an enviable success formula, is making money and aggressively tries to hold its 31-year reputation as a pace-setter.

One of the most interesting discoveries of our visit to the major di-

Some of the corporate aircraft owners based with Atlantic at Teterboro are shown on this operations board in Hangar 3.

—(Atlantic Aviation Photo.)

One of Atlantic Aviation's plane-filled hangars at Boston, where the firm is distributor for Beechcraft.
—(Atlantic Aviation Photo.)

visions last month was the realization that Atlantic Aviation is not a "chain" operation. Rather it is a *system* of well-managed aircraft sales and service institutions, each of which operates quite effectively as an almost autonomous business establishment, reflecting the personality of its local management and adapting itself to the peculiar market and airport problems with which it lives. There is central finance, sales and operations direction and a tremendous amount of inter-base cooperation and exchange of information and ideas. But by and large each base in its day-to-day pursuit of business is strictly on its own and uses its individual ingenuity and resource to develop its own market. In certain areas there is a healthy competitive spirit and each base humps to outdo the others in those departments where volume or percentage growth are comparable.

Stewart M. Ayton, 18 years with Atlantic and vice president in charge of sales, told us how productive ideas were developed from within each operating base and applied, where feasible, to the other bases. Each division has an operations committee composed of all division department heads. They meet monthly. At the Wilmington corporation headquarters is an executive committee which meets every Monday morning. Then, every ninety days, or more frequently if required, the local division managers meet with the executive committee and the corporate secretary. This group is known as the management committee. The system provides a valuable and workable communications *modus operandi* that links them all together. It can easily be seen how such constant liaison is productive of new ideas, techniques and more effective operations.

Executive committee members in addition to Ayton are: Stewart E. Poole, president of the corporation, who has been with Atlantic since its founding in 1927; Watson E. Richards, vice president in charge of operations, 12 years with the company and formerly manager at Teterboro; and Harry E. Deppert, treasurer. Division managers are: John M. Erskine, Boston; V. E. (Gene) Larimer, New York; Donald R. Redpath, operations manager, Philadelphia; and Vito Panzerino, Lynchburg, Virginia.

The three Beechcraft distributorships are based at Boston, Teterboro and Wilmington. The Piper and Grumman sales are out of Philadelphia by Atlantic Aviation Service, Inc., a wholly-owned subsidiary.

In addition to the management meetings, both Ayton and Richards are constantly on the go, visiting the base operations and working with sales and operations personnel at each location. They see to it that the basic Atlantic policy responsible for a distinct service to business and industry and for strong customer relations follows this pattern:

1. Seek out the company and individual who can benefit from business aviation;
2. Get to understand the company's or individual's needs and problems through careful analysis;
3. Present all the facts and histories of business situations similar to those of the prospect;
4. Show the prospect a creative use and every profitable advantage of business aircraft in each organization;
5. Recommend the finest available service or equipment suitable to each need;
6. Provide close follow-up support as customer gains business aviation experience;
7. Provide unsurpassed service after the sale.

Our first visit was to John Erskine's base on Logan International Airport,

Wilmington, Delaware, is headquarters for Atlantic Aviation, and this is its base at New Castle County Airport.
—(Atlantic Aviation Photo.)

Atlantic Aviation's top executives are, left to right, W. E. Richards, vice president for operations; Stewart M. Ayton, vice president for sales, and Stewart E. Poole, president. Poole has been with the firm since it started in 1927.
—(Atlantic Aviation Photo.)

Boston, which originally was a branch of the Teterboro operation. Erskine came to Atlantic from the Navy with a rich background in the insurance business. When riding out a hurricane as a pilot late in World War II, Erskine decided to depart from the insurance game after the war and try to sell airplanes for a living. In 1946 he made aviation history by selling eleven twins. In addition to New England sales for Beechcrafts, the Boston division is heavy on servicing and charter work. It grossed over a million dollars in 1957, more than $100,000 of which was charter work, mostly from steady customers. Erskine was getting his first Travel Air the day we visited him and it had been sold weeks before. He expects the Travel Air to be the "hot" item in his territory. His biggest problem is space. In this observer's opinion, Logan International is notoriously pro-airline and general aviation is more or less damned with faint praise. Even with cramped quarters, the Boston operation is handling an ever-increasing amount of maintenance, servicing and radio work in addition to new and used aircraft sales and charter. This is an example of making good despite handicaps on the airport.

Our next visit was at Teterboro, just thirty minutes from downtown New York City. Facilities here include two fully-equipped and staffed hangars, the largest having 80,000 sq. ft. Teterboro vies with Wilmington facilities insofar as capabilities, volume and versatility are concerned, with certified CAA repair stations in all categories — conversions and modifications of all types of aircraft, custom interiors, cockpit design and instrumentation just to mention a few.

We got into an especially interesting pow-wow on selling with Gene Larimer, who has Beech factory experience under his belt, and with Division Sales Manager Ed Cain, who had two years of selling in the Boston territory. Strangely enough, the population in the greater New York area imposes sales problems of a gargantuan nature. With the heavy concentration of industry and people right in the financial center of the world one might get the idea that this would be an airplane salesman's Utopia, with unlimited prospects. But this is far from so and it is recognized in the trade as a tough area. Here the competition is keen with practically every form of transportation, airline and surface.

Larimer and his staff of five salesmen figure they are still pioneering in the field of finding the answers. They use every possible source for tagging legitimate prospects, carry on mail campaigns and do a lot of cold calling. This year they plan to spend less time on the huge corporations and seek out smaller and medium-size companies. Their present customers, says Gene, are still the best salesmen. Beechcraft owners haul non-owners around in their aircraft and give Gene and his boys the names of those most interested. He also agrees that more natural salesmen must be used in the airplane business, up-grading their aviation proficiency rather than depending on non-salesmen who are good pilots.

"You can spin a lot of wheels and spend a lot of time and money on cold calls," says Gene, "but you have to do it. We're trying to have each salesman spend one day a week calling on completely cold prospects. We've found you have to start at the top executive rung and work downward in any size company."

Larimer realizes that the ideal airplane salesman is hard to come by and you need on-the-job training in order to be a product expert, competent as a pilot, have a thorough knowledge of leasing and finance plans, tax problems, electronics and accessories, maintenance costs — then know everything possible about your competitor's product. Teterboro salesmen include Bill Blakemore, who started at Wilmington in 1949; Arch Denny, who has been with them 5 years; Bill Crawford, who came out of insurance 18 months ago, and Bob Fornier, the

John Erskine (left) is New England Division manager of Atlantic Aviation. Other Atlantic personalities include Ed Cain (left below), Teterboro sales manager, and Gene Larimer (right), Atlantic vice president, shown with Leddy Greever (center), Beech Aircraft vice president.
—(Beech Photos.)

NARCO SAPPHIRE 1016 chosen for U.S. AIR FORCE L-27's

To provide versatile and complete VHF coverage for the sleek new 210 mph Cessna L-27's for the United States Air Force, the Narco Sapphire 1016 all-channel VHF transmitter and receiver was selected. Installed in the first 80 L-27's delivered by Cessna Aircraft Company to the Air Force, the Sapphire 1016 has been re-specified for installation in a second group of L-27's recently ordered.

The Narco Sapphire 1016, already in scheduled airline service with Capital Airlines and Chicago Helicopter Airways and in use in hundreds of executive aircraft, is rapidly gaining recognition as a far superior communications unit. If you are in the market for equipment to give you complete frequency coverage with high performance and reliability at a sensible price, look into the Sapphire 1016. See your Narco dealer or write for brochure.

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Sapphire 1016 — 90/360-CHANNEL TRANSMITTER 90/560-CHANNEL RECEIVER

latest acquisition who's been there only two months, coming from a sales job with Fairbanks-Morse.

Dealers present a problem, too, especially with higher-priced aircraft. Most potential dealers have a predominant flying background with very little sales experience. Larimer and Cain believe that dealers can find good prospects but that the distributor has to do the demonstrating and selling. This year they are sending a top salesman out to Zahn's airport on Long Island two days each week. If this system pans out, they will expand it into other airport dealer outlets.

In airplane sales, Teterboro's ratio runs about 75 per cent new and 25 per cent used, with 50 per cent of their total annual gross in airplane sales. The other 50 per cent is 25 per cent in the shop, 20 per cent in parts sales and 5 per cent in flight operations (charter, rental, etc.).

The sparkling new facilities at Philadelphia's new airport under the direction of Operations Manager Don Redpath boast a $650,000 hangar containing 160,000 sq. ft. to be retired under a 20-year lease with the city. Piper and Grumman "Gulfstream" sales are centered here, where fuel dispensing and flight operations, including charter and student instruction, are major items. This office has one man out selling charter service full time. They flew 3,836 charter hours in 1957, more than double 1956 hours, and they expect to double 1957 volume in 1958. The size of fuel dispensing at Philadelphia is revealed by the 2,500,000 gallons pumped last year, including JP-4, which is sold to the National Guard in anticipation of the coming jet age. The Philadelphia airport will be ready for commercial and business jets, what with 10,000-foot parallel runways in the mill. And Atlantic will have the fuel.

Atlantic Aviation specializes in maintenance and service. Here are two of its staff servicing a Super 18 *in the large facility at Wilmington.*
—(Atlantic Aviation Photo.)

Walking through the magnifiicent Philadelphia hangar, we noticed the names of blue chip companies on airplanes belonging to Sun Oil, Scott Paper, Food Fair, Virginia Coal and Iron, North Carolina Pulp, Universal Molded Products, Buckley Construction, National Coal, and of all people, the Pennsylvania Railroad! Mighty good company planes they keep in Philly! Teterboro, of course, has Arthur Godfrey.

But our most warming experience at Philadelphia was the discovery that here a big outfit, catering to so many big airplanes, was just as concerned with the little planes — and the future of this business — by not letting the wellsprings dry up.

We found a full-fledged primary flying school going strong, averaging 40 active students the year 'round. Piper Tri-Pacers, PA-18's and even Bonanzas are used as trainers. To stimulate local business in flight instruction and airplane rental, the company last year teamed up with a staffer on Radio Station WIP. They taught him to fly and in return he taped off his flight training experience for three months of weekly 15-minute radio spiels, which produced a tremendous amount of publicity as well as business. Aviation leadership is bound to study Atlantic's efforts in flight instruction because it's been obvious for a long time the average distributor of new airplanes has neglected this phase of fundamental preparation for business plane ownership and operation. It goes without saying that a company which has based its reputation strictly on quality for over 30 years is going to turn out a quality pilot from its flight instruction efforts — the type of pilot with longevity as a customer.

It was the visit to Atlantic's home base and modern facilities on New Castle County Airport at Wilmington that brought into sharp focus all the ingredients making up the success formula of the entire system. It is here one realizes that top management has simply adapted modern business techniques to aviation sales and service. While there is happy evidence this procedure is going on generally throughout the business aviation world, we're convinced that in all likelihood Atlantic is the epitome of the trend toward proven business practices. There's no doubt but that many of the progressive and modern applications one observes in the corporation derive from the proximity to the mighty duPont enterprises, all managed out of Wilmington.

For example, a management consulting firm in Philadelphia screens every employe from salesman to top executive using accepted testing methods to determine just where the employe fits. The findings of this firm are varied. They have discovered operations people in the selling end and salesmen who should be in operations.

Ed Nilsson, who wears two sales manager hats — one at Wilmington and one for Philadelphia, only 15 minutes apart by Bonanza — spent about 9 years with Van Dusen Aircraft Supply and did a stint with Lear plus a year in Tokyo on active duty prior to his affiliation with Atlantic in 1955. On his staff are Pete Griffing, an old Wings Field man; Jack Lowry, who lives in Washington and works that

(Continued on page 38)

Here's a corner in one of the Atlantic shops at Wilmington, where the firm utilizes facilities totalling more than 100,000 *sq. ft.*
—(Atlantic Aviation Photo.)

Beech Starts Inspection Tour

This Bonanza owner looks on as Beech factory technicians conduct a free inspection of more than 100 items. The 10th Annual Beechcraft Safety and Efficiency Clinic for owners began March 3 and continues until October at over 30 locations in the U. S.

FOR the 10th year, owners of Beechcrafts this year will benefit from free factory inspections in the field under a program in which factory experts tour the country visiting Beech distributors to go over customers' airplanes. The inspections start March 3 and continue until October. The idea behind the program, known as the Beechcraft Safety and Efficiency Clinic, is for the factory and its distributors to help owners increase operating efficiency through improved airplane maintenance.

Paul E. Allen, Beech manager of quality control, who started the program in 1949, says the field inspections stress four points: Normal wear of parts on which prompt corrective action would save future time and expense; proper function of landing gear, engine, control systems and other components; general condition of the airplane, and recommendations of improvements and changes to provide additional performance, comfort and safety.

The program works like this: The Beech distributor notifies Beechcraft owners when the factory reps will be on hand and he invites the customers to have their planes scheduled for the free service. When the Beech reps arrive, distributor service personnel prepare each plane for inspection by removing access plates so that the technicians can devote their full time to actual inspection.

On a Bonanza, for example, the Beech men start with the prop, inspection blade finish and tipping, hub, pitch change mechanism and attaching grommets. They follow a special list on which dozens of items are checked and marked "inspected and satisfactory," "preventive maintenance recommended" or "should have immediate attention." From the prop, the reps go to the engine compartment where they check the carburetor air filter, cowling, engine cylinders, ignition harness, oil tank, baffling, fuel lines, cabin heat valve, accessory section, exhaust stack, engine mount, battery, carburetor heat valve and plumbing. They then catch the main landing gear, nose gear, retraction check, empennage, wings and flaps, fuselage, cabin interior and genaral operation.

The operational check category alone includes inspection of the wobble pump, starter operation, fuel pressure, oil temperature, oil pressure, cylinder head temperature, generator output, static rpm, power enrichment, magneto drop, idle mixture, idle rpm, toe brake, parking brakes, fuel selector leakage, propeller manual control, governor control, type of starter, prop blades, prop governor, directional gyro, gyro horizon and fuel pump.

The factory men check over 100 items individually and write down general remarks for conditions needing attention, such as "gear door chafing strips coming loose" or "right-hand landing gear push-pull rod bearing stiff."

It all adds up to a valuable service for which the Beech distributor and the factory stand all the costs, nothing being billed to the owner. On a nationwide basis, at some 30 distributor operations, the program is a considerable undertaking, indeed — all for the purpose of service after the sale. Beech and its distributors know that a satisfied customer and an efficiently-operating, safe airplane are the best formula yet for more business. Each customer receives a complete report, as does the distributor.

All the Beech inspectors have years of experience as A & E mechanics servicing Beechcrafts. They know exactly what to look for, says Del Spillman, commercial service supervisor. The ten men forming the team this year are O. R. Aycock, R. Buettgenbach, H. F. Cordes, R. C. DeVarennes, L. E. Huff, D. B. Norton, J. A. Paul, F. E. Rowland, L. F. Sander and J. E. Womack.

This year the owner of the "best maintained" plane at each inspection station will receive a special Beechcraft certificate. Every plane receiving the inspection will receive a special windshield sticker to show that it has been inspected.

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New Cessna 175—with big-airplane stability, big-airplane comfort, big-airplane speeds up to 147 mph . . . but priced at only $10,995

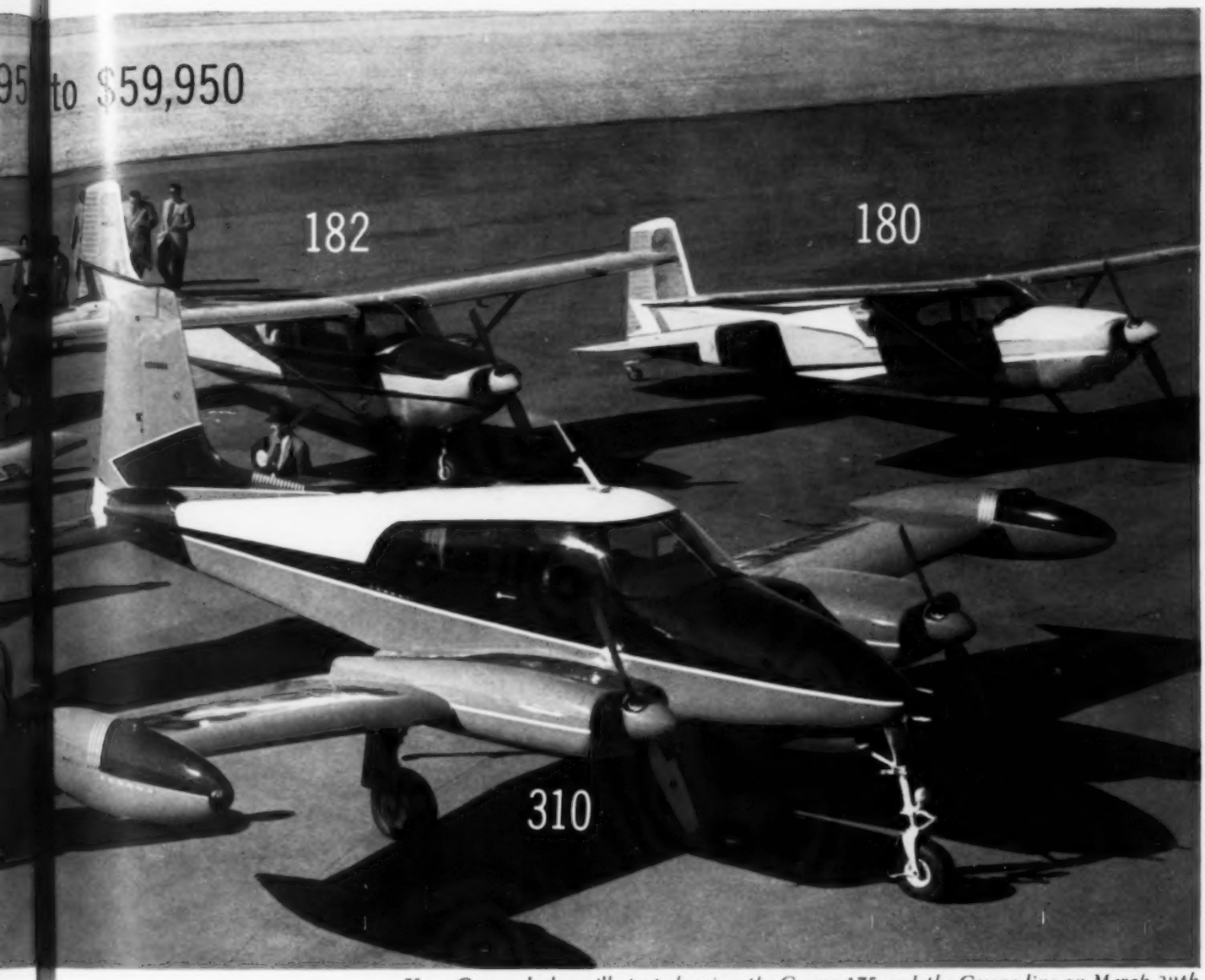
This 175-h.p. Cessna is "Power-Geared" by a smooth, quiet 6-cylinder Continental engine—the *only* airplane with so much power at such a low price: $10,995 with std. equip., f.a.f. Wichita. But "Power-Geared" performance isn't all the new 175 offers. Look!

New full-view windshield for finest forward visibility . . . new kind of easy-to-work, easy-to-read instrument panel . . . approved for floats . . . wide-span spring-steel Land-O-Matic landing gear for easy *drive-up* take-offs and *drive-in* landings . . . huge Para-Lift flaps . . . ultramodern 4-place interior . . . all-metal construction.

See the big, beautiful Cessna 175 *now!* Call your Cessna dealer (Yellow Pages of phone book). Or write CESSNA AIRCRAFT COMPANY, Dept. FM-23, Wichita, Kansas.

CESSNA 310B — new twin-engine airplane owned and flown by hundreds of businessmen. Winner of U.S.A.F. light-twin competition. Now known as the world's best all-around light twin. Quiet, spacious cabin with executive accommodations for five. Cruising speed: 213 m.p.h. $59,950 with std. equip., f.a.f. Wichita.

6 GREAT CESSNAS 172 175 180 182 SKYLANE 310 THE



Your Cessna dealer will start showing the Cessna 175 and the Cessna line on March 29th.

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CESSNA SKYLANE—de luxe airplane completely equipped with radio and navigational gear with inherent advantages of "package pricing" and factory installation. More speed, more stability, better climb, less maintenance, and 50 more h.p. than competitive airplanes in its class. $16,850 fully equipped, f.a.f. Wichita.

CESSNA 182—with sparkling beauty, performance. Most stable and lowest cost of any airplane in its class. New comfort-engineered 4-place cabin. All-metal construction. Cessna's exclusive Land-O-Matic landing gear and Para-Lift flaps. Highly dependable 230-h.p. Continental engine. $14,350 with std. equip., f.a.f. Wichita.

CESSNA 180—famous wherever there are challenging flying problems. Conventional landing gear of spring steel for smoothest, safest ride on rough fields. Easily adaptable into amphibian or ski-plane. Ideal for "bush" flying. 160-m.p.h. cruising speed. 230 h.p.; 4-place, all-metal construction. $13,850 with std. equip., f.a.f. Wichita.

CESSNA 172—roomiest 4-place cabin, highest stability, only full-size and all-metal airplane in its class! $8,995 with std. equip., f.a.f. Wichita.

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Hair Flying Service
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Sunny South Aircraft Service, Inc.
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Walston Aviation, Inc.
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3 You save money and time and we stand behind every job for your fullest satisfaction.

CESSNA MODEL 175

(Continued from page 22)

finished appearance.

Model 175 interiors are available in a choice of Dixie gray or Palm green. Gray interiors are highlighted with black bolsters, red trim and black carpeting. While green interiors have ivory bolsters, black trim and carpeting. Scuff areas for both are covered with mylar-in-silvar fabric, safety belts are black and the top deck of the panel is covered with black carpeting to eliminate glare.

Exterior colors available include red, orange, black and green with white as a common color for striping.

Optional items listed by Cessna include the following:

Speed fairings for landing gear 15 lbs., $195.

Dual control wheel and pedals, 5.5 lbs., $47.50.

Oxygen system, 29 lbs., $475.

Horizon gyro and directional gyro, including vacuum system, 15 lbs., new $725, remanufactured $515.

Navigation light flasher, 1 lb., $35.

Rotating beacon, 2 lbs., $145.

Safe flight speed control, 5.5 lbs., $295.

Group 1 Package — Lear LTRA-6TS with omnimeter and 7 crystals, Narco VC-27 Simplexer including 25 crystals, turn and bank indicator, rate of climb indicator, sensitive altimeter, clock, outside air temperature gauge, two sun visors and landing light (dual lights in left wing), installed weight 56.5 lbs., factory installed $2,350.

Group 1A Package — Same as Group 1 except Narco Omnigator Mark 2 including 23 crystals, and high band replacing Lear omnimeter, installed weight 45.5 lbs., factory installed $2,305.

Group 2 — Narco Omnigator Mark 2 including 24 crystals, turn and bank, rate of climb, sensitive altimeter, clock, outside air temperature, two sun visors and landing light (dual lights in left wing), installed weight 32 lbs., factory installed $1,635.

Group 2A — Same as Group 2 except Lear LTRA-6TS combination with omnimeter including 7 crystals and replacing the Narco omnigator, installed weight 43 lbs., factory installed $1,675.

Group 2B — Same as Group 2 except Narco VHT-3 Superhomer including 9 crystals replaces Narco Omnigator, installed weight 25.5 lbs., factory installed $1,100.

Group 2C — Same as Group 2 except Narco VC-27 Simplexer including 27 crystals replaces Narco Omnigator, installed weight 26 lbs., factory installed $1,165.

Group 2D — Same as Group 2 except Lear LTRA-6TS combination without omnimeter and including 7 crystals replaces Narco Omnigator, installed weight 33.5 lbs., factory installed $1,195.

Nose cowling of the new Cessna 175 has GO-300-A engine's integral oil cooler located in air intake next to the nose-unit reduction gear. McCauley propeller has 84-in. diameter. This is larger than the propeller on the Model 172 but still provides 13 inches of ground clearance for the prop tip.

—(Cessna Photo.)

Group 2E — Same as Group 2 except Sunair S5-DTR replaces Narco Omnigator, installed weight 44.5 lbs., factory installed $1,550.

(Note: All radio installations include cabin speaker, microphone, headphones and antennas necessary.)

Group 3 — Turn and bank, rate of climb, sensitive altimeter, clock, outside air temperature, two sun visors, landing light (dual lights in left wing), cabin speaker and low frequency antenna and mast, installed weight 10.5 lbs., factory installed $420.

Narco LFR-3 low frequency range installed with Group 2B, installed weight 3.5 lbs., factory installed $180.

Narco LFR-3 low frequency range available only as addition to Groups 1A, 2 and 2C, installed weight 3.5 lbs., factory installed $125.

Lear ADF-12E, installed weight 32 lbs., factory installed $1,220.

Cylinder head temperature gauge, 1 lb., $67.50.

PIPE LINE LUSCOMBES

(Continued from page 25)

rior in a fancy multi-engine corporate aircraft? Each of the 5 Magnolia Luscombes has a Horton & Horton custom interior. It isn't fancy — but it has contoured seats and was the only way to make the Silvaire comfortable for rough riding. They even have kidney pads for the pilots and foam-rubber headliner pads above the pilot's head. Shoulder harness is used. Right behind his head is an excellent loudspeaker for his radio, one with plenty of amplification so it can be easily monitored in the Luscombes very noisy cabin.

These little hard-working Luscombes have VHF Dare receivers and transmitters, Dare range receivers, sensitive altimeters, rate of climb indicators, turn and bank indicators, tachometers, oil pressure and temperature indicators, cylinder head temperature indicators and ammeters.

Even the brakes have been improved. The original brakes were replaced with Cleveland manual brakes, good for 1,000 hrs. between servicing and long life after that.

Six engine failures are in the records which chart the 39,611 hours flown by the Luscombes. That's an average of one engine failure per 6,500 hrs. Four were from split cylinder heads, which didn't keep the pilots from continuing their flight to the nearest airport. In each case, the head split occurred on a cylinder which had more than 3,000 hours of operation. Some cylinder heads are still operating with over 5,000 hrs. Their steel barrels were good for 1,000 hrs. before being chromed, after which they were good for 4,000 hrs. more. A fifth engine failure involved a burned piston. The sixth failure was pure and simple pilot abuse. "This guy had been flying full throttle at all times," says Linn. "The only throttle position he knew was wide open. Even at that, the engine held up pretty well — it kept grinding away wide open for 450 hrs. before it quit and even then it stayed together."

Two of the six engine failures caused forced landings in rough ground, the airplane going over on its back on both occasions. Patrolling at 100 ft., you don't have time to select an emergency field. The only other incident worth mentioning is remembered only because of its oddness — a Texas eagle attacked one of the Flying Red Horse Luscombes while it was patrolling a pipe near Abilene, Texas, in April, 1955. The pilot almost got out of this angry bird's way — but not quite. It dented the Silvaire's left wing leading edge and then slammed against the door, breaking the door latch.

"Good preventive maintenance keeps pilots out of trouble caused by mechanical malfunctioning," says Bill Linn. "In an operation where heavy utilization is necessary, we wouldn't get to first base without emphasizing preventive maintenance. The operator who tries to do other-

wise finds himself eternally chasing down trouble and never quite catching up with it, much less getting out ahead of trouble and staying away from it. This is true even for the private owner with a single airplane — he is foolish, indeed, if he does not practice preventive maintenance on all items of equipment as well as his engine and airplane. It is the only way we have been able to have airplanes ready to go when the time came for them to go."

McKINNON GOOSE

(Continued from page 27)

lent performance results from its very favorable power loading, which is less than 10 lbs. per hp. with its total of 1,360 hp. for take-off.

Wing tips were extended 18 ins. each side and retractable floats were designed to clean up the airplane as well as to provide wing-tip boards or fences. Dorsal fin was added for directional stability. Mallard wheels and brakes were installed and the main gear, tailwheel assembly and landing gear bulkheads were strengthened for the added weight, as was the wing and hull structure. Gear, flaps and tip floats are electrically operated; the floats can be individually operated.

Its bow was extended 15 inches for better streamlining and appearance and this extension also serves as a radar dome.

A one-piece curved windshield has overhead windows and the cabin has 57 by 18-in. picture windows plus an extra window in the escape hatch and entry door, with small windows in the lavatory.

Auxiliary tanks in the wings increase the fuel capacity from 220 gals. originally to 450 gals. Two complete and separate 24-volt electrical systems are used. A custom instrument panel includes dual flight instruments and provides all radio control heads at its center.

The McKinnon Goose has an 8,500-lb. empty weight, including standard interior and 125 lbs. of radio, at its 12,000-lb. gross. Span is 54 ft., length 39 ft. 7 ins. and height 11 ft. Reversible propellers are not needed for landing runs because of the airplane's low landing speed of only 60 mph., but are used for water-handling and maneuvering to docking facilities.

McKinnon, with Test Pilot Jack Ryan of Binghamton, New York, is continuing flight tests at Sandy, Oregon. Welsch says it is impossible to quote definite prices prior to CAA certification, but tentative estimates place the cost of the conversion kit at about $125,000. Where McKinnon furnishes the airplane and complete package built to customer's specifications, the prices will probably range from $225,000 to $300,000 per airplane.

ATLANTIC AVIATION

(Continued from page 32)

area, a lad with considerable experience as an automobile salesman; Ed Flannigan, based at Philadelphia and formerly a Proctor and Gamble salesman; Jack Simpson, a Pan American Airways pilot who is working part time at Philadelphia; and Al Scripture, Wilmington's specialist on Grumman sales, who came out of Eastern Air Lines. George Kinkade is the Piper salesman at Philadelphia, which is scheduled for an additional salesman soon. Wilmington, too, is trying to get away from the age-old practice of concentrating selling efforts to present owners. Ed Nilsson is shooting at about 20 per cent allocation of the salesmen's time to cold contacts — screened, ground-bound companies who need airplanes.

Robert B. Ward directs the public relations and advertising program for the corporation at the Wilmington base. The promotion program is heavy on direct mail with an estimated 250,000 pieces to go out in the current year. Local advertising is used at the major bases, primarily in media that go to industrial and business leaders. Radio has been used in Philadelphia, Lynchburg and Wilmington and probably will be expanded this year. Ward has just started a company publication, titled "The Service Flyer," and produces at least two news releases per month for the aviation press. Since the company is engaged in practically every field of general aviation enterprise from new and used aircraft sales, charter and rental, leasing, fueling, maintenance, conversions and line servicing, radio and electronic installations including radar, instrumentation, painting, custom interiors, flight instructions, minor and major repairs, and even hangar rental, it's clear the promotional department is kept busy pushing Atlantic's name, products and services in front of as many prospects as the budget will stand. In addition to sales promotional material prepared by the Beech factory, the company prepares a large variety of its own hand-outs, mailing pieces, information booklets and is now publishing an extensive brochure covering the entire system.

Atlantic's youngest division is on the picturesque Preston Glenn Airport at Lynchburg, Virginia, where a general flight service is maintained without benefit of new aircraft sales. Major expansion of this airport and facilities is under way and Atlantic is literally on the ground floor for expected general aviation growth in this area. The CAA-approved flight school carries on an Air ROTC program and a healthy business is being experienced in used plane sales, charter operations and private plane servicing under the aggressive direction of Vito Panzerino.

Few organizations in the selling and servicing end of this business can boast the pride in facilities and workmanship you feel when walking through the Atlantic shops, especially at Wilmington where veteran Stew Ayton personally escorts you on an inspection tour of the immaculate facilities. From the roomy radio and electronics shops to the factory-type fan-and-water aircraft painting installation, the pride in "offering the best" is impressive. This same pride of facilities and superior workmanship is felt even out on the line by the alert line service men, who apparently have also taken to heart the exhortation in the Employes' Handbook which says each employe "must make every effort necessary to continuously improve the quality of service and workmanship and to do this in the most pleasant, efficient and economical manner possible, if he is to meet his responsibility."

We think it is largely in the meaning of the two words "quality" and "responsibility" that Atlantic Aviation has, over the long years, identified itself as one of the real pace-setting organizations in general aviation. The application of well-tested big business techniques to airplane sales and service has had considerable influence on the success of the enterprise. But as important as these are in the Atlantic Aviation picture, they can't compare with the very obvious *esprit de corps* of Atlantic's personnel from the plane washer on the line to top management in each of the divisions, where pride of facilities and doing things right seem to be the gospel.

The precedent, they say at Atlantic, was set many years ago, well before business aviation got out of swaddling clothes, in the days when there were more high-binders and promoters than there were legitimate service institutions. The precedent: "Mediocrity in this field of aviation is tantamount to failure. We must set and maintain the highest standards in our work, and continually try to improve them, otherwise we become mediocre." The best witness to the fact that these are not idle words but very much in the action state are the large numbers of satisfied customers flying in and out of the bases from Boston to Lynchburg. In this business, it's clear, dodging mediocrity is basic to success.

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MEMBERS OF THE GENERAL AVIATION FACILITIES PLANNING GROUP, known as the GAFPG and composed of eleven associations representing all segments of general aviation, are pictured above at a recent Washington luncheon honoring Elwood R. Quesada, Airways Modernization Board chairman. A GAFPG committee has filed with the Civil Aeronautics Board the group's formal comments and protests against restrictive proposed changes in the air traffic rules. Left to right at the head table in the photo are J. T. Genting, Jr., manager, Utility Airplane Council, AIA; George E. Haddaway, GAFPG executive committeeman and FLIGHT MAGAZINE publisher; Crocker Snow, National Association of State Aviation Officials; Mr. Quesada, AMB chairman and President Eisenhower's special aviation assistant; GAFPG Chairman Leslie A. Bryan, University of Illinois; J. Gordon Bennett, Jr., assistant to Quesada; J. L. Anast, AMB technical director, and Dr. R. H. Jordan, AMB.

—(Aircraft Industries Association Photo.)

Air Traffic Restrictions Opposed

General aviation goes on record with protests to Civil Aeronautics Board

WHATEVER changes are made in the Civil Air Regulations for air traffic control, as proposed recently by the Civil Aeronautics Board and the CAA in revisions detailed for FLIGHT MAGAZINE readers in our February, 1958, issue, the Board will have no excuse for ignoring or overlooking the serious needs of general aviation. Comment from users of the airspace was requested by the Board when it circulated its Draft Release 57-27, setting February 28 as the deadline for comment. Voluminous and authoritative comment was submitted before the deadline by organizations representing general aviation and by individual owners and pilots of utility and business aircraft. In copies of the comment we have seen, strong opposition was expressed to any attempts to restrict general aircraft usefulness by regulations which would raise VFR ceiling and visibility minimums to 1,500 ft. and 5 miles, re-define control areas and raise the "floor" of these areas from 700 ft. wherever and as much as the CAA may desire.

Opposition, for example, was expressed by the General Aviation Facilities Planning Group. This group is made up of associations representing practically all general aviation activities — eleven different associations, as follows: Aeronautical Training Society, Aircraft Owners and Pilots Association, American Association of Airport Executives, Aviation Distributors and Manufacturers Association, Flying Physicians' Association, National Association of State Aviation Officials, National Aviation Trades Association, National Business Aircraft Association, National Flying Farmers' Association, National Pilots' Association and the Utility Airplane Council of the Aircraft Industries Association.

The GAFPG comment, drafted by a committee composed of Max Karant, Robb C. Oertel, Gil F. Quinby and Crocker Snow, chairman, summed up its comment to the CAB as follows:

"First of all, there are four relatively simple changes with which we are in accord. These are: (1) Increase visibility requirement for acrobatic flight from 3 to 5 miles; (2) change VFR cruising altitudes from quadrantal to a semi-circular pattern; (3) change IFR cruising altitudes outside controlled areas to mesh with the new VFR pattern; (4) permit the military to establish instrument approach procedures to their own airports.

"Next we come to the matter of flight outside the high-density terminal area. The draft release proposes no change, other than those just discussed, in areas subject to air traffic control, and we agree that no regulatory changes appear to be necessary. It then goes on to recognize that the present 700-ft. floor in such areas may be unreasonable and unnecessary, and therefore proposes to permit the Administrator of CAA to raise this floor where, as much as, and if he sees fit to do so. Here we part company.

"Under existing regulations, the only part of the navigable air space of the U. S. which is universally available to the pilot who either does not want to, or is not equipped to subject himself to air traffic control from the ground when the flight visibility drops below three miles, is the 700 ft. between the ground and the floor of controlled air space, and even this is not available in the vicinity of controlled airports.

"This 700 ft. is all but useless for at least three good reasons — (1) it is down among hard-to-see TV towers which frequently extend as much as 1,500 ft. above the ground; (2) it is too low for consistent radio navigational and weather coverage, and (3) it is often unavailable anyway because of another regulation which requires clearing congested areas by 1,000 ft.

"We feel strongly that there must be a reasonable and uniform space provided for uncontrolled VFR flight when the visibility is less than 3 miles and that this space must, as an irreducible minimum, include altitudes high enough safely to clear man-made ground hazards and legally to clear congested areas on the ground. We see no objection to authorizing the Administrator to increase the space above this minimum whenever practicable.

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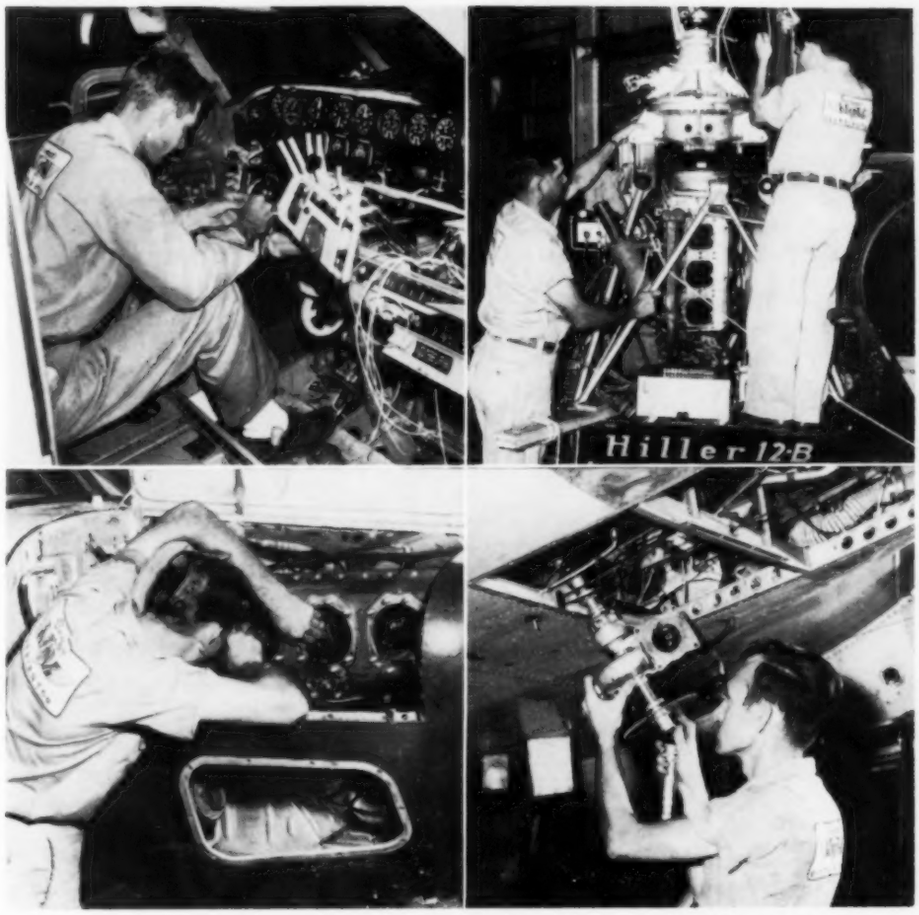

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ground has been frequently mentioned for this purpose. This would seem to meet the above requirements, but a careful analysis has demonstrated to us that the situation of the VFR pilot in restricted visibility is very similar in this one respect to that of the pilot on instruments — he requires clearance above obstacles in a defined area of considerable extent, not just directly under where he thinks he is at any given moment. Consequently, we feel that the floor of controlled air space must be based upon the same sort of criteria as the minimum altitude authorized for instrument flight.

"There must, of course, be separation in altitude between controlled instrument flights and VFR flights in uncontrolled air space. We suggest that 500 ft. is adequate; that this buffer zone should be absorbed by uncontrolled VFR operations; that the floor of uncontrolled air space should therefore be 500 ft. below the minimum altitude authorized for instrument flight; and that this minimum altitude should not be less than 3,000 ft. above the ground except in control zones or when necessary for take-off or landing. This would permit uncontrolled VFR flight up to 2,500 ft. above the ground, which is high enough for legal VFR flight in all areas, and is 1,000 feet above the apparent maximum practicable height of man-made hazards such as TV towers.

"Our detailed recommendations contain regulatory changes necessary to accomplish this, and to permit VFR flight clear of clouds outside of control areas.

"Lastly, and perhaps most complicated, is the terminal area. The draft release includes no important changes except in high-density situations, and we have only some minor clarifications to suggest. However, it proposes that in the vicinity of high-density airports, all traffic be subjected to control when the ceiling drops below 1,500 ft. or the visibility below 5 miles. This seems to us to be unnecessary and superfluous, in view of the existing regulation which requires in effect that all pilots landing at, taking off from or flying within the traffic pattern of a high-density airport obtain a clearance from the tower, *regardless of ceiling or visibility.*

"We feel that there should be a reasonable limitation on the size of zones within which such full-time controls may be exercised and that control zone extensions necessary to cover associated radio aids distant from the controlled airport need not extend to the ground. Such extensions could include all air space necessary for IFR traffic and still leave room underneath for uncontrolled VFR operations and VFR flights to and from surrounding airports.

"We also feel that the safety and efficiency of all flight operations in the vicinity of controlled airports would be improved if there were some method of visually identifying control zones to the pilot flying VFR. Extensions might be similarly identified by lights with different characteristics located at the approximate radio aids.

"Our detailed recommendations are based upon retention of present VFR ceiling and visibility regulations, and include a revised definition of control zones."

The GAFPG committee's detailed recommendations include the following:

"VFR RULES. The proposed amendments reorganize Sections 60.30 and 60.31, which presently cover VFR ceilings and cloud clearance and VFR visibility, in that order, into 'basic VFR minimum weather conditions' and 'special VFR minimum weather conditions in control zones.' At the same time, they raise the ceiling and visibility minimums in control zones including a high-density airport from 1,000 and 3 to 1,500 and 5; eliminate the present authority for a controller

(Continued on page 51)

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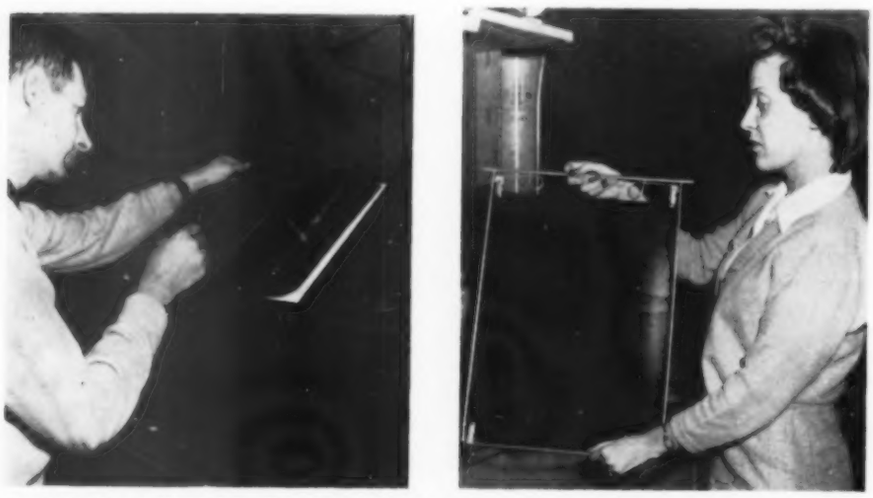

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AIRCRAFT ELECTRONICS ASSOCIATION, aviation's newest trade association organized recently by aircraft electronic and radio sales, installation and service operators, will hold its first general membership meeting March 19-21 in Dallas at the Baker Hotel. Officers and directors met recently in Chicago and reviewed the group's proposed charter and by-laws for presentation at the Dallas meeting. Officers and committeemen are: President, Charles Peacock, Aircraft Radio & Accessory Co., Denver; vice president, Phil Stomberg, Minnesota Airmotive, Minneapolis; secretary, Gene Baker, Chamberlain Aviation, Cuyahoga Falls, Ohio; treasurer, Cal White, Airmar Radio Service, Smithtown, N. Y.; program committee, Robert Anderson, Anderson Aircraft Radio Service, Detroit; program committee, Gene Panisiddi, Qualitron, Burbank; arrangements committee, Lee Lanford, Associated Radio, Dallas; public relations committee, Robert T. O'Connor, E. F. Farnell & Co., Lantana, Florida, and membership committee, Joseph Munizza, Mid-States Aviation, Northbrook, Ill. All members and prospective members are urged to attend the group's first national meeting in Dallas.

SOUTHWEST AIRMOTIVE, Love Field, Dallas, observed two memorable events last month — its first commercial jet engine overhaul and delivery of its 10,000th overhauled engine to the Air Force since 1950.

NATIONWIDE ROUNDUP:

New Business In the Hangar

The first civilian jet customer was Robert V. Kamensky of Hollywood, California, for whom Southwest performed America's first overhaul and testing of a jet engine for a private business plane. It was an Allison J-33 jet, made up largely of salvaged material located by Kamensky in thousands of miles of travel to all parts of the U. S., Alaska and overseas. The engine goes into Kamensky's personal Lockheed T-33, which he also built up from military parts and pieces for which he searched the world. Kamensky will fly the T-33 in mid-March and figures it will represent an investment of about $200,000 or more and years of searching military junk heaps.

SOUTHWEST'S 10,000th ENGINE OVERHAUL FOR THE AIR FORCE since 1950 was an Allison J-33, delivered in ceremonies to Maj. Gen. T. P. Gerrity, commander of the Oklahoma City Air Materiel Area. The 10,000 engines included 5,820 piston engines of 8 types and 4,180 Allison jets, the latter number being since 1955. These jets were for trainers and Martin Matador missiles. In addition, Southwest Airmotive is overhauling Allisons for the Navy and will soon announce its first airline contract for jet engine overhaul.

AERO CORPORATION OF ATLANTA, Municipal Airport, Atlanta, Georgia, has installed a 600-gal. tank for fire extinguishing solutions in a U. S. Forestry Service TBM torpedo bomber based at Macon, Georgia, and used to fight forest fires from the air. Aero Corp. has also landed new contracts for the overhaul of a large quantity of helicopter transmissions and for the SCAMP overhaul of a quantity of Army DH Otters. It has received an extension of contracts for maintenance of airborne and ground station equipment at Redstone Arsenal, Alabama. Its latest corporate aircraft activity included X-ray inspection and periodic work on Ralph Whitworth's Coca-Cola Super Ventura from New York and electronic and landing gear work on the U. S. Immigration Service DC-3 based at Washington, D. C.

HORTON & HORTON CUSTOM WORKS, Meacham Field, Ft. Worth, last month installed their third de Havilland Dove interior for Shell Oil, Chief Pilot R. E. Porter bringing it in from New York. . . . Mr. and Mrs. C. L. McMahon, Tulsa, took delivery of a Gold Crest interior in their D18 Beech, featuring butterfly Soji win-

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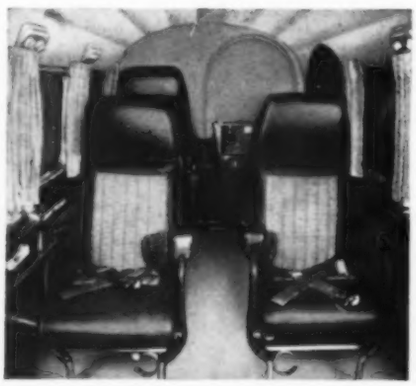

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ow slides, special lounge, and Belgian linen pilot compartment draperies. Bill Buchanan, National Aero Sales, Chicago, chose a sterling silver engraved crest with silver accessories for his blue and gray Gold Crest interior in a new 680 Super Aero Commander. . . . J. B. Michael's D18 Beech from Memphis, Col. William Johnson, chief pilot, has a new custom interior with sable, copper lurex seat fabric taupe, genuine leather, lime-green silk vinyl headlining, gold vinyl sidewalls, plastic laminate bulkheads, deep-pile nylon carpet, and gold-plated screws, washers, coat hanger and entrance door step. Associated Radio of Dallas reworked and refinished all instruments and radio in coordination with the interior. . . . William Blackfield ordered his personal "crown" emblem on the Gold Crest in his 680 Super Aero Commander Horton & Horton interior. It is styled in pastel blues with woven-wood draperies. This Commander is used in his San Francisco and Hawaii operations.

BAY AVIATION SERVICE, operator of the San Francisco International Airport's executive aircraft terminal, has contracted to handle all fueling for Japan Air Lines at the base. JAL has five DC-6 and DC-7 flights weekly out of San Francisco. Other carriers using Bay Aviation's services include BOAC, Slick and Qantas of Australia. E. H. Gough, president of Bay Aviation Service, also heads Oakland Airmotive and Palm Springs Airport.

NEWEST CONVERSION FOR C-46 TRANSPORT is this Super 46 "C" by L. B. Smith Aircraft, Miami, now undergoing CAA inspection and test. It has C-type R-2800 engines and other features of the Aircraft Engineering Foundation (AEF)-Smith kit, giving it greater safety factors at increased gross weight.

DALLAS AERO SERVICE, Love Field, Dallas, has the Weatherhead Co. Lodestar from Cleveland, Gordon Bennett, chief pilot, in for a complete speed modification including stabilizer and flap-track rework and installation of wheel-well doors, as well as some interior and other work. . . . Other Lodestars serviced last month include Manufacturers Trust Co., New York, Ray F. Bloszies, chief pilot, tank seal and miscellaneous repairs; Russell Firestone, Dallas, Bill Powell, chief pilot, double engine change; and British American Oil, Dallas, Bob Dodson, chief pilot, 8,000-hr. overhaul, new wiring and miscellaneous work. . . . De Havilland Dove projects included: Rish Equipment Co., Bluefield, West Virginia, Jesse Enoch, pilot, double engine change and conversion to Mark 2 engines; Hunkin-Conkey Construction Co., Cleveland, Ohio, Hal Muny, pilot, double engine change and overhaul accessories; Schlumberger Co., Houston, Russell Wright, double engine change, and Shell Oil, New York, Bob Porter, chief pilot, installation of auxiliary fuel tank and paint job. . . . Jim Hall's P-51 Mustang from Abilene was in for relicense and numerous modifications. . . . Swede Johnson, El Paso Natural Gas, brought in a Twin-Bonanza for a new interior, Federal autopilot installation and paint job.

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Dallas Airmotive's Island Service Division, located on the Municipal Airport in Galveston, Texas, is the ideal service organization for all airplanes operated in the Americas. The Island Service Division is especially ideally situated for those who operate executive, business and private aircraft in the Gulf Coast area.

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. . . Two more Convair 240's were relicensed for Dundel Corp. . . . Federal autopilots were installed in Aero Commanders for Signal Oil of Ft. Worth, Ray Vertol, pilot, and Lebus Engineering, Longview.

AMERICAN AIRLINES now has a director of aircraft sales. He is Allan A. Barrie, with domestic and foreign airlines for 30 years. His office is at American's general offices, 100 Park Ave., New York.

REMMERT-WERNER, INC., Lambert Field, St. Louis, has delivered a new custom DC-3 to Pillsbury Mills, Jim Grogan, chief pilot. It has Bendix X-band radar with swingaway scanner mount and hinged radome, Sperry A12 autopilot with extra C4 Gyrosyn compass, Sperry H5 electric gyro horizon, dual Sperry R1 pictorial deviation indicators, Collins 51X2-17L7 880-channel VHF communications with 50-kc. spacing, dual Collins 51V glideslope receivers, dual ARC Type 21 ADF's, custom radio and instrument panels, retractable tail wheel, R-W landing gear doors and other niceties. . . . Webb-Knapp's DC-3, Pilots Don Gex, Don Alexander and Bill White, was in for 8,000-hr. inspection and overhaul, new control cables, new airstair door, new exterior paint and R-W lightweight landing gear doors. . . . Peabody Coal's Super-92 DC-3, Pilots Bob Boyanowsky and Bill Frame, was in for dual ARC Type 21 ADF's, Collins 51R3 omni with dual RMI and Bendix Omnimag, Collins 17L4-51R3 communications, Sperry C6 Gyrosyn compass and H5 electronic guro horizon, and custom radio, electrical and instrument panels. . . . Mine Safety Appliances' DC-3, M. L. Nicholson, chief pilot, received 1,000-hr. inspection and overhaul, control recovering, interior work, installation of Collins 51Z marker receiver, Bendix iron core loops, radio overhaul, woodwork refinishing and other rework. . . . At Remmert-Werner, Pompano Beach, Florida, Bob Amundsen was in with the Pocahontas Coal D18S for speed kit, new interior and other work. . . . Toledo's Remmert-Werner base serviced both of Owens-Illinois Glass Company's DC-3's for installation of Bendix RA18 360-channel VHF receivers with 50-kc. spacing and Narco Sapphire 1016 360-560-channel 50-kc. transceivers. Dick Rigg is chief pilot.

AIRESEARCH AVIATION SERVICE Division of the Garrett Corp., Los Angeles International Airport, is doing extensive work on a Convair 340 purchased by IBM Corp. from United Air Lines. The list includes exterior painting matching the company's color scheme, installation of a customized executive interior, additional radio equipment, Convair speed and sound kit to convert the plane to a 440 configuration, auxiliary power unit, long-range fuel tanks, Sperry engine analyzer and auxiliary ground heating system. Delivery was made by Chuck McKinnon, manager of flight operations and John Powers, chief pilot. . . . General Petroleum, DC-3, Pilot Arch McGregor, flew in for Bendix RDR-1 radar, Sperry A-1 automatic pilot and changing of the generator system to 200 amps. The airplane was licensed for use of the AiResearch 26,900 pound gross weight manual. . . . Texas Co., D-18 Twin Beech, added a safe flight SC-24 speed control system, and a General Electric business aircraft compass system. . . . H. C. Price Co., Douglas B-23, was given an engine change, complete new interior and a Winslow Oil Filter. Piloting were Jack Neal and Bill Hubbard. . . . La Brea Securities Co., Lockheed Lodestar, with Pilots Tom Penfield and Joe Potter, came in for engine work.

GREENSBORO-HIGH POINT AIR SERVICE, Greensboro, North Carolina, reports doubling of its radio department with latest test equipment operating. H. L. Coble Construction's new Twin-Bonanza got a custom radio installation including Dare DTR 360A, dual ARC omni, ARC, ADF, ARC Course Director, Dare glide path and transistorized marker receiver and ARC T-11. Roscoe Harris is pilot. . . . Marsden-Slate's new J-35 Bonanza received a radio installation including dual omni, Mark 2 Omnigator, Simplexer and Lear ADF. . . . Miscellaneous work was performed for Gardner Enterprises' Twin Beech, Capitol Products' Twin Beech and S & W Motor Lines' Twin Beech.

EXECUTIVE AIRCRAFT SERVICE, Red Bird Airport, Dallas, delivered Dow Chemical's DC-3 to Ted Merchant after 100-hr. check, wiring overhaul and radio work. . . . Orville

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LOCKHEED F-104A ULTRASONIC FIGHTERS have become operational, the first U. S. Air Force unit to receive them being the 83rd Fighter-Interceptor Squadron, Hamilton Air Force Base, Calif. The stub-winged missile with a man in it is world's fastest and highest-flying fighter and is powered by a GE J-79 jet.

Sparks' Holley Carburetor DC-3, Detroit, was in for annual, paint job, landing gear wheel doors, short stacks and interior refurbishing. . . . Col. E. W. Estelle brought in the Esso Shipping Convair 340 from Teterboro for airframe overhaul, paint job, radio work and interior modifications. . . . A new interior, electrical system and paint job were performed for Bill Correll's Waterman Steamship Lodestar from Mobile. . . . Ken Hunter brought in Kerr-McGhee's DC-3 from Oklahoma City for 8,000-hr. overhaul, Bendix radar and radio installations and a new electrical system. . . . Ray Hodge's Odessa Natural Gas Lodestar received an annual.

SOUTHWEST AIRMOTIVE, Love Field, Dallas, had a customer drop in

Airmen's Calendar

Mar. 13-14—2nd National Aviation Education Conference, Hotel Mayflower, Washington, D. C.

Mar. 17-20—Joint Aviation Conference, American Rocket Society-American Society of Mechanical Engineers, Statler Hilton Hotel, Dallas, Texas.

Mar. 19-21—Aeronautical Electronics Association Meeting, Baker Hotel, Dallas.

Mar. 24-26—Aero Medical Association Annual Meeting, Statler Hotel, Washington, D. C.

April 10-11—Aeronautical Training Society Annual Meeting, Mayflower Hotel, Washington, D. C.

April 16-19—14th American Helicopter Society National Forum, Sheraton Park Hotel, Washington, D. C.

April 24-27—Flying Physicians Association's Phoenix Spring Cruise, Valley Ho Hotel, Scottsdale, Arizona.

May 16-20—16th Annual Miami-Havana Air Cruise, sponsored by Florida Air Pilots Assoc. Contact James G. Pace, Cruise Director, 310 SE 2nd Ave., Miami, Fla.

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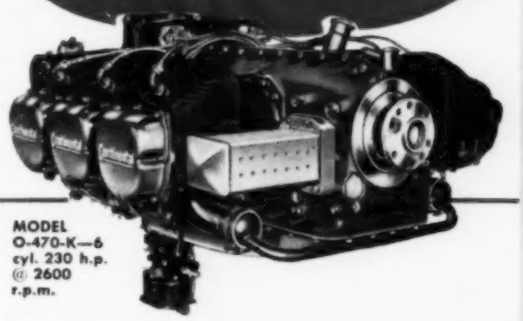

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for work last month, let out a ramp, and drive up to the office in a Volkswagen carried aboard the aircraft for transportation between hops. It was La Consolidada's C82A Fairchild, Capt. Salinas, chief pilot, up from Mexico City for relicensing. This Flying Boxcar's custom interior resembles the den of a fine home rather than an aircraft interior. . . . Wyandotte Chemical's DC-3 from Detroit, Charles Schenck, pilot, was in for installation of a 200,000-BTU Janitrol heater in the rear compartment, new Transir wheel well doors and new pitot system. . . . An oxygen system and engine change were delivered to Al Phillips' Ray Smith Lodestar. . . . Jim Boyd brought in the Shamrock Oil & Gas Lodestar from Amarillo for double engine change.

KENNETH J. BOEDECKER, assistant to the vice president for sales, Wright Aeronautical, has retired after 38 years of service during which he became widely known throughout commercial aviation among mechanics and airline presidents alike. His part in the epic Lindbergh flight to Paris is credited in writings by Lindy. He also assisted in preparations for many other historic flights, having joined Wrigl when it acquired the old Lawrenc Aero Engine Corp., with which Bo decker was associated in 1923. Bo decker now resides at 236 William S , East Orange, N. J.

A FUEL INJECTION TEST STAND designed for complete testing of Simmonds fuel injection systems for gasoline engines is available from Simmonds Aerocessories.

WILLIAM P. LEAR, chairman of Lear, Inc., has been added to the Pacific Airmotive Corp. board of directors at Burbank. Lear was responsible for development of the Learstar, prime product of PacAero Engineering Corp., acquired by Pacific Airmotive in 1956.

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AIR TRAFFIC RULES

(Continued from page 44)

to permit take-offs and landings with localized half-mile visibilities, and apparently excuse an instrument-rated pilot from all of these rules.

"We believe that the present organization of these two sections is more orderly and logical, and should be retained. As stated, we consider the ceiling and visibility change to be unnecessary, and we feel that the authority presently given the controller with respect to localized low-visibility situations has been helpful in the efficient control of traffic and has not been demonstrated to be unsafe. There would seem to be no exceptions to the regulations defining VFR justified by the rating of the pilot.

"We also feel that the special exceptions granted to helicopters should be broadened to include any aircraft capable of flying at very slow speeds, and that ground visibilities should be tied to a particular airport.

"Consequently we recommend, instead of the draft release proposals, the following:

"Amend 60.30 (b) (1) to read 'When within controlled air space, aircraft shall not be flown less than 500 ft. vertically under, 1,000 ft. vertically over, and 2,000 ft. horizontally from any cloud formation.'

"Amend 60.30 (b) (2) to read 'When outside of controlled air space, aircraft shall not be flown unless clear of clouds.'

"Amend 30.31 (a) (1) by adding the underlined words 'When the ground visibility *at such airport is*,' etc.

"Amend 60.31 (c) by deleting the second sentence of the note.

"Amend 60.31 (d) by changing the reference to helicopter in the body and in the note to read 'aircraft capable of being flown at very slow speeds' and by deleting the words 'and at an altitude of less than 700 ft. above the surface' appearing in the note.

"VFR CRUISING ALTITUDES. We recommend the adoption of the proposed revision. In making this recommendation, we submit the following comments in the hope that they may help in obtaining the safest use of this change in VFR cruising altitudes.

"The adoption of the semi-circular altitude separation plan to replace the quadrantal altitude separation plan permits a 90-degree crossing situation to occur at the same altitude. We presume this collision potential is acceptable, since it provides a welcome simplification of the rules. However, we strongly suggest that every possible emphasis be placed on the means of determining the direction which governs the VFR altitude. We understand that cruising altitude will be based on intended magnetic course rather than aircraft heading, direct course or other directional de-

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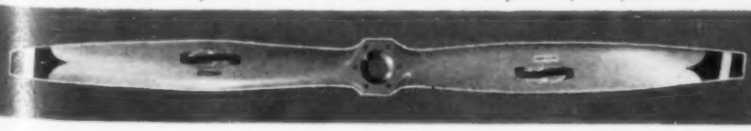

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termination. If this assumption is correct, the point is well worth emphasizing so as to reduce the ambiguity which is possible on southbound and northbound headings.

"It may be of interest to note that the committee received reports that some pilots deliberately fly at exactly the wrong altitude with reference to their course in an effort to protect themselves against the overtaking collision hazard. Apparently, pilots of slower aircraft operating at moderately high cruising altitudes feel that their own alertness can protect them from the head-on collision hazard but fear the relatively high overtaking closure rate of aircraft on the same track.

"INSTRUMENT APPROACH PROCEDURES. It is the committee's opinion that the declared intent of the Safety Bureau can be better achieved by addition to the existing Section 60.46 than by the proposed revision thereof. We, therefore, recommend the following:

"Amend 60.46 by adding a new section (c) 'or a different instrument approach procedure is prescribed and published for a military airport by appropriate military authority.'

"In explanation of this recommendation, we note that the Safety Bureau in their explanatory remarks place emphasis on the need for freedom on the part of the military to adopt their own instrument approach procedures. We certainly do not dispute this need, but we point out that the draft proposal, in addition to granting the military authority, denies non-standard approach clearance authority to the controller even when this approach clearance is given in accordance with procedures approved by the Administrator. It is our feeling that if this authority constitutes a safety hazard, then the controller is not properly discharging his responsibility or the procedures approved by the Administrator need re-examination. On the other hand, the delegation of this approval authority to the controller frequently expedites traffic handling under instrument conditions, particularly at satellite airports in a congested terminal area. This advantage would seem to justify the retention of this authority for the controller.

"DEFINITIONS. Instead of the draft release proposal, we recommend the following amended definitions:

"CONTROL AREA — Air space of defined dimensions designated by the Administrator, extending upwards from an altitude *of 500 ft. below the minimum altitude authorized for instrument flight to the base of the continental control area, within which air traffic control is exercised. The minimum altitude authorized for instrument flight, if below* 10,000 *ft. MSL, shall be at least* 3,000 *ft. above the terrain, except in control zones or when necessary for take-off or landing.*

"CONTROL ZONE — An air space of defined dimensions designated by the Administrator extending upwards from the surface to the base of the continental control area, to include one or more airports and surrounding area, *but not to exceed 5 miles in radius,* within which rules additional to those governing flight in control areas apply for the protection of air traffic. *Extensions to include instrument approach facilities outside this 5-mile maximum radius from the airport may be designated, but such extensions shall extend in altitude from not lower than* 800 *ft. above the surface to the base of the continental control area.*"

The GAFPG comment also included this statement: "We are satisfied that present regulations, as distinguished from facilities and procedures, are and will continue to be more than adequate for the balance of air traffic, consisting of the great bulk of general aviation, some military transport and maintenance of proficiency flying, most army air operations, and a large fraction of scheduled air carrier flights; and that almost any additional restrictions will reduce the efficiency and usefulness of these types of flying."

While the GAFPG comment represents a large cross-section of all general aviation, it does not cover all of the reasons why some of the proposed changes in the air traffic rules would be restrictive and discriminatory against VFR traffic. Comments

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on the proposed changes from various individuals have produced other significant facts which the CAB should recognize and consider in its deliberations.

For example, restrictive airport control zones should be kept to the smallest possible size to match a higher floor under control areas and these smaller airport control zones should permit low-flying aircraft under control area floors and outside of the airport control zones to communicate VHF direct with the airport approach controller. This and other important points are developed in the comment by a FLIGHT MAGAZINE reader, Fred K. Dick, a long-time commercial pilot whose corporate flying is both VFR and IFR and who has also had experience as a CAA airways traffic controller and is familiar with conditions on both the pilot's and the controller's side of the fence.

Pointing out the line-of-sight limitations of the VHF-UHF primary navigation, communication and radar facilities of the Federal Airways System, Reader Dick reminds the Board that their usefulness is determined and limited by aircraft altitude above the terrain so that any restrictions on altitude are automatically restrictions on the use of these primary facilities. He continues:

"Any proposed revision such as 14CFR which revises visual flight rules, without at the same time revising instrument flight rules, in order to coordinate the two conditions of flight, is discriminatory against the users of air space who normally operate under VFR conditions and denies them the public right of freedom of transit in air commerce in the air space.

"The proposed revision 60.30 makes specific provision for helicopters (a relatively new traffic hazard) and for very slow aircraft in the lower 700 ft. of air space. This mixes them with so-called normal-speed aircraft. Therefore, provision of a higher floor under control areas should be made for normal-speed aircraft to avoid mixing the two categories.

"VFR aircraft are denied the use of primary communications and primary navigation facilities of the Federal Airways system by any revision such as 14 CFR which does not include a redesignation of control areas, setting a minimum standard floor of at least 1,400 ft. above the terrain, and a minimum IFR altitude of at least 2,000 ft. above the terrain, until such IFR aircraft are inside a redesignated airport control zone.

"Redesignated airport control zones should meet the higher minimum IFR altitudes and should have a floor beyond the 5-mile radius and a higher floor beyond the 8-9-mile radius if so designated.

"Designated high-density and/or jet airport control zones should include at their outer limits radio aids to navigation not only for the benefit of IFR traffic but radio navigation aids (possibly TVOR or compass locators) for more precise navigation of VFR traffic as well.

"A higher minimum floor under control areas would enable low-flying aircraft some very slight chance of tuning in two VHF stations and to navigate with more accuracy. This accuracy in navigation is necessary (a) so as not to inadvertently enter an airport control zone and become a traffic hazard to IFR-controlled traffic; (b) to enable VFR aircraft to communicate direct with airport traffic control; and (c) to show up on the radar scopes at a greater range so such aircraft can be recognized as a traffic hazard.

"Any traffic rules which tend to force aircraft normally flying VFR (and which are only a traffic hazard or problem at the airport of landing) to become an IFR problem is not a proper safety measure but serves only to complicate an already overloaded and sometimes saturated enroute traffic system — as soon as the VFR aircraft becomes an IFR problem, it requires take-off clearances, enroute clearances, re-routing clearances, climb clearances, descent clearances, holding clearances, change-of-frequency information and instructions, approach clearances, ad infinitum. This further strains and overloads the enroute traffic control and communications system which is already subject to saturation under existing traffic rules.

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NATIONAL ASSOCIATION OF FLIGHT SCHOOLS has been organized at Minneapolis, Minnesota, with E. G. (Bud) Ege as executive director and will offer management, sales, advertising, publicity and promotion services to private flying schools. Ege started NAFS after success with an 18-month trial "package plan" at Nelson-Ryan Flight Service in Minneapolis. Ege says his NAFS advisory council includes W. T. Piper, Sr.; James Herrick of Cessna; Robert Brown of Champion Aircraft; Roy Strong of Northern Aircraft; William Lotze, NATA president, and J. B. Hartranf, AOPA. The NAFS address is 2[illegible] Southdale, Minneapolis 10.

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